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Culture and Enforcement Effects on Insider Trading, Market Reactions, and Firm Value: Evidence from the Market Abuse Regulation

Amanda M. Olsen
University of Tennessee, Knoxville, aolsen@vols.utk.edu

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I am submitting herewith a dissertation written by Amanda M. Olsen entitled "Culture and Enforcement Effects on Insider Trading, Market Reactions, and Firm Value: Evidence from the Market Abuse Regulation." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Business Administration.

Larry A. Fauver, Major Professor

We have read this dissertation and recommend its acceptance:

Larry A. Fauver, Matthew C. Harris, Matthew A. Serfling, Tracie M. Woidtke

Accepted for the Council:

Dixie L. Thompson

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

Culture and Enforcement Effects on Insider Trading, Market Reactions, and Firm Value: Evidence from the Market Abuse Regulation

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Dedication

I dedicate this dissertation to my loving parents, David and Shirley Olsen, who have provided me immeasurable love and support as I completed my graduate studies.

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Abstract

This dissertation examines the changes to the European Union (EU) law on market abuse, market manipulation, and insider trading regulation made when the Market Abuse Regulation (MAR) was enacted. I detail the changes in comparison to the previous legislation under the Market Abuse Directive (MAD) and changes several Member States made to their domestic legislation to achieve compliance with MAR. I highlight the sanctions imposed in several Member States to argue the severity of punishment under MAR. This analysis provides evidence that MAR brought about a plausibly exogenous shock to the cost of insider trading. Next, I examine the effects of firm- and country-level culture on insider trading profitability around the announcement, implementation, and first enforcement of MAR. Insiders from high ESG firms tend to engage in less profitable insider trading after the first enforcement of MAR. Insiders from high ESG firms also tend to engage in more (less) profitable purchasing (selling) activity in the post-announcement and post-effective periods. But these effects vary by firm size. I also study the "E" and "S" portions of ESG and find these culture measures lead to differences in profitability in the post-MAR period. High individualism contributes to less profitable trading after the first enforcement of MAR. High uncertainty avoidance and high corruption contribute to more (less) profitable selling (purchasing) activity after the first enforcement of MAR. Market reactions are significantly negative for the publication of sanctions imposed under MAR. This negative reaction is stronger when the enforcement (1) involves illegal insider trading, (2) is against a legal person, (3) imposes a larger pecuniary amount, and (4) was conducted prior to COVID-19 pandemic. This effect differs by firm- and country-level culture. High ESG and high environmental consciousness contribute to higher firm value after the first European Securities and Market Authority (ESMA) publication of MAR enforcements. Country-level culture and insider trading profitability do not contribute to firm value after the first ESMA report on MAR enforcements is published.

Table of Contents

List of Tables

Chapter 1

The Market Abuse Regulation

Abstract

This chapter examines the changes to the European Union (EU) law on market abuse, market manipulation, and insider trading regulation made when the Market Abuse Regulation (MAR) was enacted. First, I detail the changes in comparison to the previous legislation under the Market Abuse Directive (MAD). Next, I detail the changes several Member States of the EU made to their domestic regulations to achieve compliance with MAR. Third, I highlight the sanctions imposed in several Member States to argue the severity of punishment under MAR. This analysis provides evidence that MAR brought about a plausibly exogenous shock to the cost of insider trading. Univariate tests reveal significant differences in insider trading profitability and market reactions after the announcement, implementation, and first enforcement of MAR.

Introduction

In 2005, the European Commission implemented the Market Abuse Directive (MAD) to try to harmonize the different markets in the European Union (EU) in monitoring and punishing market abuse, market manipulation, and insider trading.[1] However, this directive became outdated and, in some cases, obsolete as markets continued to become more complex. Therefore, in 2011, the European Commission issued a report on the updates highly recommended to achieve better monitoring and enforcement in the EU.[2] In this report, the European Commission list several shortcomings of the then current directive. First, MAD did not account for securities trading on multilateral trading facilities or those trading over the counter. Second, MAD did not account for commodity and related derivative markets. Third, under MAD, not all Member States had the power needed to require reports be sent to their competent authorities to monitor trading activity for possible infringements, and others did not have a full set of sanctioning powers.[3] Fourth, MAD lacked clarity and legal certainty, leaving room for Member States to interpret the directive and implement domestic laws based on these interpretations. Last, the administrative burden on issuers to report price sensitive information, insider lists, and disclose managers' transactions is exceptionally great, highlighting the need for a uniform reporting process monitored by a central authority.

From this information, regulators in the EU worked to create the Market Abuse Regulation (MAR). It was announced on April 16, 2014 and implemented for all Member States of the EU on July 3, 2016. This represented a change in regime since a regulation is legally binding for all Member States, whereas a directive requires Member States to achieve certain results using their own interpretations of the directive's objectives. MAR brought significant changes to the trading landscape in the EU. I first compare the differences between MAD and MAR. I then detail the changes several Member States made to their existing domestic regulations to achieve compliance with MAR. I also highlight the severity of punishments under MAR from several Member States.

[1] Insider trading is often referred to as insider dealing in the EU.

[2] Report titled "Commission Staff Working Paper Executive Summary of the Impact Assessment, SEC/2011/1218 final"

[3] The competent authority is the securities regulator for the Member State. For example, the competent authority for France is the Autorité des Marché Financiers (AMF).

I use this analysis as evidence that MAR created a plausibly exogenous shock to the cost of insider trading in the EU.

In my univariate analysis, I largely find insider trading profitability decreases after the announcement, implementation, and first enforcement of MAR. To illustrate, 1-month value-weighted buy-and-hold abnormal returns (BHARs) significantly decrease by 0.0067, 0.0110, and 0.0091 for the announcement, effective, and enforcement periods, respectively, compared to the pre-announcement period returns. This represents 58%, 96%, and 79% of the sample mean. I find similar results for 3-month and 6-month BHARs. I also test whether this difference is driven by buy or sell transactions, splitting the sample into two subsets. I find that most results seem to driven by significantly less profitable buying activity rather than selling activity. I also test whether the cumulative abnormal returns (CARs) are significantly different from zero for (0,1), (0,2) and (0,3) days around the announcement, implementation, and first enforcement of MAR. I find evidence that the market reacts negatively to these events.

My main contribution is a strong understanding of EU regulation, specifically MAR, and a basic understanding of its impacts on insider trading profitability and market reactions. Many studies are interested in the effects of regulation on market outcomes. Fauver et al. (2017) study board reforms from 41 countries and find these reforms increase firm value. Chen et al. (2020) study international board reforms and find firms reduce cash holdings following these reforms. Liu and Tian (2012) find firms with excess control rights have more leverage and their controlling shareholders choose to tunnel rather invest in positive NPV projects after the Chinese non-tradable shares reform. Gębka et al. (2017) find the market abuse directive (MAD) had little effect on insider trading profitability. Siems (2008) discusses the strengths and weaknesses of MAD. Among the weaknesses are (1) the inability to impose sanctions for inside trades conducted on unregulated markets, (2) the complicated process involved with regulating cross-border activities, and (3) difficulty for some Member States to effectively monitor and impose sanctions under the directive, especially since no European case law had been presented yet under the new directive. I extensively compare MAD and MAR and find the directive and regulation largely differ from one another. I also document the changes to domestic law needed for several Member States to be compliant with MAR after its

implementation. Last, I show there are differences in insider trading behavior and market reactions after the announcement, implementation, and publications of MAR enforcements.

Market Abuse Regulation

The Market Abuse Regulation (MAR) of 2014 was the regulation that replaced the Market Abuse Directive (MAD) of 2003. Previous literature finds that MAD had little to no effect on insider trading behavior (Siems, 2008; Gębka et al., 2017). I make the case that MAR significantly changed the landscape for insiders based on (1) the nature of a regulation versus a directive, (2) the expanded scope of the regulation, (3) the increased oversight of the regulation, and (4) the establishment of standardized administrative sanctions for violations of the regulation. Using this evidence, I argue MAR is likely to have generated an exogenous shock to the cost of insider trading in the EU.

Regulation versus Directive

The first major difference between these two pieces of legislation is the legally binding nature. Since MAR is a regulation, it is legally binding in all the Member States of the EU. But MAD was only a directive, which means it required Member States to achieve certain results, but each Member State was given discretion on how to implement the directive into its own legislative code. For example, MAD states the following:

> The competent authority [of the Member State] may issue guidance on matters covered by the Directive, e.g. definition of inside information in relation to derivatives on commodities or implementation of the definition of accepted market practices relating to the definition of market manipulation. This guidance should be in conformity with the provisions of the Directive and the implementing measures adopted in accordance with the comitology procedure.[4]

Furthermore, MAR states a major objective of the regulation is "to establish a more uniform and stronger framework in order to preserve market integrity, to avoid potential regulatory arbitrage, to ensure accountability in the event of attempted manipulation, and to provide more legal certainty

[4]MAD documentation can be found at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32003L0006.

and less regulatory complexity for market participants."[5] Therefore, MAR shows promise for having a more significant impact than MAD.

Expanded Scope

MAR significantly expands the scope of financial instruments covered as compared to MAD. MAD did not address financial instruments trading on multilateral trading facilities (MTFs), organised trading facilities (OTFs), or over-the-counter (OTC) that could have effects on the prices of financial instruments. MAR explicitly states "the scope of this Regulation should therefore include any financial instrument traded on a regulated market, an MTF or an OTF, and any other conduct or action which can have an effect on such a financial instrument irrespective of whether it takes places on a trading venue."

MAD supplies a definition of inside information as guidance for what Member States could use in their legislation that includes the following:

> (i) "Inside information" shall mean information of a precise nature which has not been made public, relating, directly or indirectly, to one or more issuers of financial instruments or to one or more financial instruments and which, if it were made public, would be likely to have a significant effect on the prices of those financial instruments or on the price of related derivative financial instruments.
>
> (ii) In relation to derivatives on commodities, "inside information" shall mean information of a precise nature which has not been made public, relating, directly or indirectly, to one or more such derivatives and which users of markets on which such derivatives are traded would expect to receive in accordance with accepted market practices on those markets.

MAR enforces an expanded definition to the one above, containing more specific information to account for other financial instruments not covered under MAD. For instance, MAR added the following to paragraph (ii) above to account for commodity derivatives and related spot commodity contracts:

[5] MAR documentation can be found at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32014R0596.

> ...in relation to commodity derivatives, information of a precise nature, which has not been made public, relating, directly or indirectly to one or more such derivatives or relating directly to the related spot commodity contract, and which, if it were made public, would be likely to have a significant effect on the prices of such derivatives or related spot commodity contracts, and where this is information which is reasonably expected to be disclosed or is required to be disclosed in accordance with legal or regulatory provisions at the Union or national level, market rules, contract, practice or custom, on the relevant commodity derivatives markets or spot markets.

MAR also added provisions covering emission allowances or related auctioned products, detailed in the quote below.

> [I]n relation to emission allowances or auctioned products based thereon, information of a precise nature, which has not been made public, relating, directly or indirectly, to one or more such instruments, and which, if it were made public, would be likely to have a significant effect on the prices of such instruments or on the prices of related derivative financial instruments.

MAR also provides a specific definition for information of a precise nature whereas MAD provides no such definition. MAR establishes information of a precise nature to be information that indicates a set of circumstances exist or are reasonably expected to occur or an event that has occurred or is reasonably expected to occur that could have significant effects on prices of financial instruments, related derivatives, related spot commodity contracts, or auctioned products based on emission allowances. Moreover, MAR dictates that all steps involved in the protracted process that brings about an event described above will also be subject to MAR. Thus, MAR created a uniform definition for each of the Member States instead of allowing each Member State to establish the definition as was done under MAD and effectively expanded the scope and scrutiny of trading in financial markets in the EU.

MAR also expands the definition of insider dealing, also known as insider trading. MAD only deemed insider dealing to be (1) disclosing inside information to any other person(s) unless this information was disclosed through normal employment practices or (2) recommending any other

person(s) to obtain or dispose of financial instruments to which the information relates. MAR adds to this definition (1) the cancelling or amending of orders concerning a financial instrument or inducing others to do so using information pertaining to the financial instruments and (2) the submission, modification, or withdrawal of a bid concerning auctions of emission allowances or other auctioned products.

Oversight

MAR also introduced increased oversight of each Member States' implementation and enforcement of MAR. The European Securities and Markets Authority (ESMA) would be the central regulatory authority concerning MAR. One major change was the requirement for market operators and investment firms operating an MTF or an OTF to report to its Member State's competent authority a list of all financial instruments admitted for trading, all financial instruments submitted for admission to trading, when all financial instruments traded for the first time, and, if applicable, the date the financial instruments stop trading. Then each competent authority was to collect this same information about each financial instrument traded on regulated markets inside the Member State and report to ESMA all the information collected on financial instruments traded on regulated markets, MTFs, and OTFs.

The competent authority in each Member State would be responsible for establishing an accepted market practice subject to the detailed criteria in Article 13 of MAR. However, before establishing the accepted practice, the competent authority must submit details to ESMA for review, and ESMA will then provide a ruling as to whether the accepted practice threatens confidence in the EU's financial market. Furthermore, MAR requires the competent authorities review their accepted practices at least every two years to determine if they need amending to account for changes in the market environment. MAR also established the rule that the competent authority of each Member State has an obligation to cooperate with each other and with ESMA. Particularly, "[competent authorities] shall exchange information without undue delay and cooperate in investigation, supervision and enforcement activities."

MAR established rules for the appropriate process for delaying the disclosure of inside information. Under MAD, each Member State was given discretion to determine the policy and process

by which inside information could be delayed. Under MAR, an issuer must satisfy the following conditions in order to delay the disclosure of inside information:

1. The disclosure of the inside information entails a risk of undermining the financial stability of the issuer and of the financial system.
2. It is in the public interest to delay disclosure.
3. The confidentiality of that information can be ensured.

MAR also requires the competent authority to reevaluate each case on at least a weekly basis to ensure the conditions are still met. ESMA also plays a role here, providing the technical means for delaying public disclosure of inside information to the competent authorities of each Member State to ensure uniform standards for each case across Member States.

Under MAD, each issuer of financial instruments trading regulated markets was required to publish lists of insiders privy to inside information. But each Member State could dictate what information must be made public on these insiders. MAR requires issuers maintain *uniform* lists of insiders who have access to inside information. This includes not just persons under direct employment, but those performing tasks that grant them access to inside information, such as lawyers and accountants. The list must include (1) the identity of the person, (2) the reason the person is included on the list, (3) the date that the person was made privy of the inside information, and (4) the date the insider list was created. Issuers with financial instruments trading or requesting admission for trading on regulated markets, MTFs, or OTFs are all subject to this rule. Again, ESMA is responsible for providing the technical means for each issuer to create uniform lists. These uniform lists make it easier for competent authorities and ESMA to conduct investigations of suspected insider dealing, increasing the scrutiny of each issuers' insiders.

In investigating suspected cases of insider dealing, MAD established some measures the competent authorities must have the right to take, such as carrying out on-site inspections, examining existing telephone and data traffic records, suspending trading of the financial instruments, and freezing assets. MAR expands on this list, adding the following measures:

- Enter the premises of natural and legal persons in order to seize documents and data in any form where reasonable suspicion exists;
- Refer matters for criminal investigation;
- Require telephone conversations, electronic communications or data traffic records held by investment firms, credit institutions or financial institutions;
- Require, insofar as permitted by national law, existing data traffic records held by a telecommunications operator, where there is a reasonable suspicion of an infringement and where such records may be relevant to the investigation of an infringement; and
- Take all necessary measures to ensure that the public is correctly informed, inter alia, by correcting false or misleading disclosed information, including by requiring an issuer or other person who has published or disseminated false or misleading information to publish a corrective statement.

Each of the first four measures reasonably increases the level of scrutiny imposed on each insider. The final point increases the potential cost for insider dealing since there could be loss of reputation from having to publish a corrective statement. In summary, the increased oversight from ESMA on the competent authorities and the increased scrutiny from competent authorities on insiders supports the assumption that MAR generated an exogenous shock to the cost of insider trading.

Sanctions

MAD allowed each Member State to choose the administrative sanctions appropriate for violations of the directive. MAD simply states the following:

> Without prejudice to the right of Member States to impose criminal sanctions, Member States shall ensure, in conformity with their national law, that the appropriate administrative measures can be taken or administrative sanctions be imposed against the persons responsible where the provisions adopted in the implementation of this Directive have not been complied with. Member States shall ensure that these measures are effective, proportionate and dissuasive.

MAR established details about administrative sanctions for violations of the regulation. MAR dictated the competent authority of each Member State establish rules that allow that authority to impose at least the following administrative sanctions:

1. Order person responsible to cease actions.
2. Disgorge profits gained or losses avoided.
3. Issue public warning that indicates the person responsible.
4. Withdraw or suspend investment firm's authorization.
5. Impose a temporary ban on person responsible from management functions in investment firms.
6. Impose permanent ban if there are repeated cases of insider dealing.
7. Impose temporary ban on person responsible from dealing on own account.
8. Set maximum administrative pecuniary sanctions of at least three times the amount of profits gained or losses avoided.
9. Set maximum administrative pecuniary sanctions for insider dealing for natural persons of at least EUR 5,000,000 or the corresponding value in the Member State's national currency.
10. Set maximum administrative pecuniary sanctions for insider dealing for legal persons of at least EUR 15,000,000 or 15% of the total annual turnover of the legal person or the corresponding value in the Member State's national currency.

In the event a sanction occurred under MAD, the competent authority was allowed the right to publish the sanction but not required to do so. Under MAR, the competent authorities are required to publish on their websites any decisions imposing an administrative sanction immediately after the competent authorities have notified the person subject to the decision. Through these publications, MAR aims to ensure the competent authorities make decisions that dissuade the public from engaging the infringing activity. Also, MAR requires each competent authority report to ESMA annually the aggregated information of all administrative sanctions and other administrative measures the authority imposes. ESMA will then publish an annual report with the aggregated

information from all the Member States. This effectively establishes a "one-stop shop" for market participants to learn about the possible penalties for engaging in insider dealing or other forms of market abuse. Thus, MAR effectively increases the scrutiny of each competent authority's handling of infringements and increases the perceived cost of insider dealing for other insiders.

As mentioned earlier, MAR introduced the requirement on the publication of imposed sanctions. The regulation states

> [C]ompetent authorities shall publish any decision imposing an administrative sanction or other administrative measure in relation to an infringement of this Regulation on their website immediately after the person subject to that decision has been informed of that decision. Such publication shall include at least information on the type and nature of the infringement and the identity of the person subject to the decision.

Additionally, the regulation requires these publications to remain online for five years and competent authorities to publish details of any decisions on appeals of these sanctions. The majority of competent authorities have added publications on MAR sanctions, which are relatively easy to locate. For example, on the website for Sweden's competent authority, Finansinspektionen, if investors search for "sanktion" + "marknadsmissbruksförordning" (Swedish for "sanction" + "Market Abuse Regulation"), they will find the list of published sanctions imposed on persons, both legal and natural. On the website of Germany's competent authority, BaFin, if investors search for "MAR" + "administrative fine" - no need for German translation - a list of administrative fines imposed under MAR result. On the website of France's competent authority, the AMF, investors can click on "News & Publications" and then "Enforcement Committee new releases" to read the list of all the sanctions imposed in France.

In addition to the ease of finding these publications, investors can now see the amount of these sanctions or fines, many of which are quite sizable. Finanssivalvonta, Finland's competent authority, imposed a 1,450,000 euro sanction on Afarak Group for insider dealing. The AMF imposed a 20,000,000 euro sanction on Morgan Stanley & Co International for market manipulation. They also imposed a 10,000,000 euro sanction on Diana Holding for insider dealing. BaFin imposed a 1,275,000 euro sanction on Linde GmbH for market manipulation. Finansinspektionen imposed a

25,000,000 SEK (2,476,472.07 euro) sanction on Capital Conquest AB for market manipulation. These sanctions are not limited to legal persons. The AMF imposed a sanction on Rita Zniber, the CEO and Chairperson of Marie Brizard Wine & Spirits, of 6,000,000 euros for insider dealing. Financial Services and Markets Authority, Belgium's competent authority, imposed a 107,841 euro sanction on an anonymous individual for insider dealing. Finansinspektionen imposed a 2,400,000 SEK (237,806.96 euro) sanction for market manipulation.

Other Considerations

I focus on MAR's impact on insider dealing regulation. However, MAR was not limited to insider dealing, bringing about a multitude of changes for financial markets in the EU. Here I highlight a few of the additional changes MAR enacted to illustrate the enormity of this regulation. It formalized market soundings, which are, in essence, communications of information that occur prior to the announcement of a transaction to gauge interest in the possible transaction. MAR also detailed instances where market soundings are prohibited.

MAR also expanded MAD's definition of market manipulation, the practice of sending false or misleading signals about the supply of, demand for, or price of a financial instrument. MAR expanded this much like it did for inside information, adding the spot market and auctioned products based on emission allowances and adding manipulation of benchmark calculations.

Last, MAR also expanded scrutiny of managers' transactions. MAD only dictated disclosure of transactions that managers or persons closely associated with them conducted on their own account concerning the issuer's shares or related derivatives. Managers were to disclose this information as soon as possible. MAR added debt instruments, emission allowances, and auction products related to these allowances to the list of financial instruments that require disclosure and specifically stated managers must disclose this information within three business days of the transaction. Similarly to insider dealing, MAR applies to issuers trading on MTFs and OTFs in addition to regulated markets. MAR dictates all the information that must be disclosed, to include the name of the person, the reason for the notification, name of the relevant issuer, a description of the financial instrument, the nature of the transaction, the date and place of the transaction, and the price and volume of the transaction. MAR establishes a threshold of EUR 5,000 of subsequent transactions

that must be achieved before the disclosure is required, a threshold considerably lower than many Member States used under MAD. MAR even imposes a 30-day restriction on executing transactions before interim financial reports or year-end reports. The final provision on managers' transactions ensures ESMA provide details on how to implement technical standards to ensure uniformity in reporting across Member States.

Country Analysis

Since MAD was not legally binding and each country was allowed to write their regulations to achieve at least the desired results from the directive, the case could be made that each country had regulations that could have already accounted for the changes in MAR. I show this is not the case by examining the changes several Member States made to their domestic regulations to achieve compliance with MAR.

The French competent authority, the Autorité des Marché Financiers (AMF), published a report to their website documenting the changes that would be needed to their current regulations to be compliant with MAR.[6] The AMF would need to account for the expanded scope of MAR and include financial instruments traded on MTFs, OTFs, emission allowance auctions, and spot commodities contracts. While AMF had already added financial instruments trading on MTFs to their regulations prior to MAR, they would need to update their regulations to account for all the other instruments now covered in MAR. The AMF also stated they would need to account for the new definition of insider dealing that includes the instances of a non-insider executing a transaction based on the recommendation of an insider given the non-insider knows the recommendation is based on inside information. The AMF would also need to monitor market soundings as detailed in MAR.

In establishing an accepted market practice, the AMF would need to update regulations to expand the scope to include monitoring the activities of "experts" who produce investment recommendations. Additionally, the AMF would need to update the conflict of interest disclosure requirement when producing investment recommendations. Prior to MAR, French law required persons making investment recommendations to disclose conflicts of interests where any long posi-

[6]From article "Europe strengthens its market abuse regulations"

tion in excess of 5% of the total issued share capital of the listed company had to be included in the financial analysis. Under MAR, any net long or short position exceeding 0.5% must be disclosed. The AMF also comments on the need for increased transparency between it and the public in establishing new accepted market practices as detailed earlier. The AMF also clarifies the absence of a grandfather clause means all current accepted market practices established would need to be examined and approved by ESMA.

MAR brought significant changes to French law concerning managers' transactions. The AMF would need to reduce the time frame for managers to disclose their transactions from five to three business days. Additionally, French law would now have to include the new "negative window" where managers cannot transact in the 30 days prior to publications of half-yearly and annual reports.

The AMF would also need to update regulations on administrative sanctions. The AMF needed to add the requirement that if profits or losses could not be determined from the infringing activity, legal persons would be assessed sanctions of at least EUR 15 million or 15% of their total annual turnover. Prior to MAR, the French law only explicitly included one of the seven criteria for determining administrative sanctions, requiring the AMF to include the other six criteria. Prior to MAR, French law did not allow the AMF to inform the public of the persons responsible for the infringement which is now a requirement under MAR. New sanctions required to be added to French law include (1) temporarily banning persons discharging managerial responsibilities within an investment firm from dealing on their own account or performing management functions and (2) permanently banning these persons from performing management functions in the event of repeated infringements. The AMF would also need to add the offense of refusal to comply with an AMF investigation to the actions subject to sanctions from the AMF.

The Italian competent Authority, Commissione Nazionale per le Società e la Borsa (CONSOB), mentioned changes implemented in 2016 when MAR became effective in their 2016 annual report. CONSOB stated MAR increased the number of relevant behaviors subject to scrutiny and extended the reporting requirements of abnormal operations in the spot or forward commodity markets. CONSOB stated that this extension requires increased monitoring of small scale parties relatively less active on financial markets and other parties active in financial markets previously

not monitored, such as insurance companies, proprietary traders, and buy side firms. CONSOB, like the AMF, mentioned the need to start monitoring the activities of "experts" making investment recommendations and any possible conflicts of interest involved in the presentation of their recommendations.

CONSOB also stated the new rules for inside information and delaying disclosure of inside information replaced existing legislation when MAR became effective in July of 2016, specifically highlighting new regulations on management of inside information, insider lists, manager operations, and market soundings. Like the AMF, CONSOB notified ESMA of three accepted market practices on market liquidity support, the purchase of treasury stock, and the repurchase of bonds at predetermined conditions that were established under Italian law prior to MAR. As mentioned before, MAR required CONSOB to notify ESMA of these practices for ESMA to determine whether they threatened the integrity of financial markets, whether they could be left in Italian law after MAR, and whether any additional provisions need be specified for these practices.

Luxembourg's competent authority for market abuse, Commission de Surveillance du Secteur Financier (CSSF), documented on their website key changes resulting from the implementation of MAR.[7] The CSSF highlights the need (1) to cover financial instruments traded on MTFs and OTFs, (2) require persons discharging managerial responsibilities (PDMRs) and people closely related to them to disclose transactions traded on their own accounts no later than three business days after the transaction takes place, (3) require issuers and anyone operating on their behalf submit insider lists, and (4) require market operators, investment firms that operate a trading venue, and any person professionally arranging or executing transactions to submit reports to the CSSF of any suspicious trades, including the cancellation of trades.

The United Kingdom's competent authority, the Financial Conduct Authority (FCA), issued a policy statement entitled "Policy proposals and Handbook changes related to the implementation of the Market Abuse Regulation (2014/596/EU)" detailing the changes to the current UK law required to account for MAR. The FCA mention they repealed the part of their domestic law, the Financial Securities and Markets Act (FSMA) of 2000, on the guidance for determining whether a behavior is considered market abuse since it was not compatible with MAR. The FCA also mention the need

[7]Document can be found at https://www.cssf.lu/en/market-abuse/#documentation.

to remove the clause that market abuse could only come from a regular user, a reasonable person who regularly trades on the markets, in investments, or on auction platforms, widening the scope of natural and legal persons subject to the new legislation. The FCA report that MAR would replace their current definition of insider dealing and unlawful disclosure of inside information. MAR also replaced the UK's laws on the disclosure requirements of inside information and the delay of such disclosures. The FCA also state the provision that "market makers and persons lawfully dealing on their account and pursuing their legitimate business will not in itself amount to market manipulation" must be removed from FSMA because it is too narrow in scope to compatible with MAR.

In addition to these changes, the FCA's annual report for the fiscal year ending on March 31, 2017 mentions MAR extends the obligations for firms and trading venues to begin reporting suspicious orders in addition to transactions and attempted market abuse. This caused an increase in the number of reports from 1,110 in the first six months of 2016 to 1,898 in the second six months of 2016. The FCA also report a significant increase in the number of non-equity related reports. These reports led to significant sanctions for natural and legal persons. The FCA used their powers for the first time under the updated FSMA in March 2017 to require a listed company to pay compensation for market abuse, requiring Tesco plc to pay £85 million plus interest for misleading investors about its half-year profits. The annual report also states Mr. Dodgson and Mr. Hind were sentenced to four and a half and three and half years in prison for Mr. Hind's trading on insider information that Mr. Dodgson provided him. In another case, Mr. Birk was fined £163,000 for trading on insider information his neighbor gave him about a takeover of Logica plc. As mentioned earlier, the publication of these harsher punishments are now required under MAR.

Germany's competent authority, Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin), detailed the changes to German domestic law required under MAR in their 2016 annual report. BaFin reports they needed to enact the German First Financial Markets Amendment Act to ensure the German domestic code was compliant with MAR. The act includes extending monitoring to financial instruments traded on MTFs and OTFs and the need for issuers of these instruments to disclose inside information and publish insider lists. The act also extends the options available

for imposing sanctions on infringements and makes it possible for secondary insider trading and attempted market manipulation to be prosecuted as criminal offenses. The act also increases the possible administrative fines for infringements, where these infringements can now be based on a legal person's turnover as mentioned earlier. BaFin states they will use the new legislation to impose higher fines in cases of serious offenses, especially for larger firms with larger turnover. BaFin provides the example that prior to MAR, they were only able to impose fines of a maximum of EUR 200,000 but can now impose fines up to EUR 10 million, 5% of annual consolidated turnover, or twice the economic benefit gained from the infringement. BaFin also state they will now have the power to publish the details of each case under the new legislation as a measure to deter future offenses.

Data

Insider Trading and Firm Data

Previous research studies the effect of insider trading regulations on insider trading profitability. However, previous studies in international settings use proxies for insider trading to capture insider trading activity. For example, Bris (2005) uses abnormal volume and price movements before tender offer announcements as proxies for insider trading to show insider trading law enforcement from 52 countries increases the incidence and profitability of insider trading from 1990 to 1999. Tourani-Rad et al. (2012) use price run-ups and abnormal volume data to show uncertainty avoidance (individualism) is negatively (loosely) related to insider trading from 1990 to 2008. Using proxies could bias results if they do not accurately measure what they are intended to capture. Ahern (2018) finds most standard illiquidity measures are not statistically and economically robust predictors of illegal insider trading, and those that were robust were only robust in the short-term.

I aim to alleviate the ambiguity of using proxies through using the 2iQ Global Insider Transaction Database which tracks global insider transactions. The 2iQ database traces over 10 million transactions by over 500,000 insiders from over 60,000 stocks across 50 countries since 2000. This database also covers each region of the world for an average of 12 years. In this study, I limit my focus to European countries affected by MAR. 2iQ covers about 14,000 securities in Europe since 2000. I use buy and sell, unautomated, non-mechanical transactions that result in a change of

ownership. I use transactions from years 2011 to 2019 to allow for three years of data before the announcement of MAR and three years of data after MAR was effective. I also want to study the insiders who are privy to sensitive firm information on which they could possibly trade. The 2iQ data has a classification code for the type of insiders included in the data. I limit my focus to the insiders with the following classifications: "A" - top insiders (executive board, chairman, top 5 insiders); "B" - upper level management (executive committee, top 20 insiders); "C" - non-executives, supervisory board, and Board of Directors; and "D" - lower level executives.[8]

I gather firm-level data from Worldscope, including assets, debt, market value of equity, book value of equity, and net income. I calculate *Size* as the log of assets in U.S. dollars, *Leverage* as the ratio of debt to assets, return on assets (*ROA*) as the ratio of net income to assets, and *Tobin's q* as the market value of equity plus assets minus book value of equity all divided by assets. I report summary statistics on the number of firms and number of firm-transaction observations in Table 2 based on the filters on the 2iQ insider transactions and require the firm to have values for size, leverage, and ROA. [9] My sample consists of 3,356 firms and 144,599 firm-transaction observations.

To examine the profitability of insider transactions, I calculate the buy-and-hold abnormal returns (BHARs) for each transaction over 1-month, 3-month, and 6-month periods. I collect daily stock price data from Datastream for these calculations and use the following for my calculation,

$$BHAR = \Pi_{n=0}^{N}(1 + ret) - \Pi_{n=0}^{N}(1 + ewret)$$

where N is set to 22, 65, and 130 for the approximate number of trading days in 1 month, 3 months, and 6 months, respectively. *ewret* is the equal-weighted return based on the returns from the firms in the same country as the given firm. I also calculate the buy-and-hold returns using a value-weighted return, replacing *ewret* with *vwret*. To capture the profitability of inside selling activity, I multiply the BHARs for sell transactions by -1. I report summary statistics on buy-and-hold returns for the firms in my sample in Panel A of Table 4.[10] I report summary statistics on firm-level variables in Panel C of Table 4. The control variables *Size*, *Leverage*, and *ROA* are

[8] my results remain consistent with the ones I present if I define insiders more generally than those defined above.
[9] Table 2 in Appendix
[10] Table 4 in Appendix

three-year averages from 2011 to 2013 for each firm. I use these average values since MAR impacts all firms at the same time and I wish to control for pre-treatment trends. To mitigate the effect of outliers, I winsorize all variables at the 1% and 99% level.

Published Sanctions Data

For each Member State in the EU, I search for sanctions on the competent authority's website related to MAR. I first search using the English version, if available, using combinations of keywords "sanction", "fine", and "penalty" with "Market Abuse Regulaton", "MAR", "market abuse", or "596/2014". I use "596/2014" because MAR is officially known as Regulation (EU) No 596/2014. Once I collect the results from these searches, I then go to the native language version of the website and search for the same combinations of keywords translated into the native language. Using this search method, I find 294 sanctions from 11 countries. The other Member States may not have published their sanctions since MAR does allow sanctions not be published if the infringement does not jeopardize the stability of the financial market or the measure is minor in nature. Additionally, ESMA released a report on the use of suspicious transaction and order reports (STORs) and compliance of enforcement and sanctions related to these STORs.[11] The report details several Member States are only partially compliant - Denmark, Estonia, Greece, Croatia, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, and Iceland - and some are fully non-compliant - Cyprus and Liechtenstein - with the use of STORs and proper enforcement of sanctions. Therefore, I consider the search results considerably return most of the sanctions that have been published on competent authority's websites. From these sanctions, I collect data on the person being sanctioned, whether the person is a natural or legal person, the pecuniary amount, and whether the sanction was related to insider trading or market manipulation. For sanctions against natural persons, I collect the name of the related legal person, if available. I use these legal names and search for them on the Worldscope company data to find the ISIN number for the legal person.

[11] ESMA report "Peer Review on the collection and use of STORs under the Market Abuse Regulation as a source of information in market abuse investigations"

Market Reactions Data

I use Datastream daily stock price data to calculate the cumulative abnormal returns (CARs) around each enforcement and the announcement and effective dates of MAR. I use windows of 0 to +1 days, 0 to +2 days, and 0 to +3 days. I assume no information leakage about the sanctions because competent authorities are required to immediately publish sanctions they impose on their websites under MAR. I calculate the CARs using the market model where the benchmark is the equal- or value-weighted return for the country in which the firm's stock trades. I report the number of firms and observations by country for the sample of CARs in Table 3.[12] My sample contains 4,414 firms and 416,851 firm-CAR observations. I also report summary statistics of the equal- and value-weighted CARs in Panel B of Table 4.

Univariate Results

First, I report the summary statistics of trading by time period in Table 5.[13] I break the sample into (1) the pre-announcement period, dates prior to April 16, 2014, (2) the post-announcement period, dates on or after April 16, 2014 but before July 3, 2016, (3) the post-effective period, dates on or after July 3, 2016 but before the first publication of a MAR enforcement concerning insider trading in the country in which the firm's stock trades, and (4) the post-enforcement period, dates on or after the date of the first publication of a MAR enforcement concerning insider trading in the country in which the firm's stock trades.

Next, I report the test for differences in means for insider trading profitability by period in Table 6.[14] I largely find insider trading profitability decreases after the announcement, implementation, and first enforcement of MAR. To illustrate, 1-month value-weighted buy-and-hold abnormal returns (BHARs) significantly decrease by 0.0067, 0.0110, and 0.0091 for the post-announcement, post-effective, and post-enforcement periods, respectively, compared to the pre-announcement period returns. This represents 58%, 96%, and 79% of the sample mean. I find similar results for 3-month and 6-month BHARs. I also test whether this difference is driven by buy or sell transac-

[12] Table 3 in Appendix
[13] Table 5 in Appendix
[14] Table 6 in Appendix

tions, splitting the sample into two subsets. I find that most results seem to driven by significantly less profitable buying activity rather than selling activity.

One might wonder whether changes in trading activity drives this result. To test this possibility, I aggregate the number of shares traded and the total number of trades for each firm by year and by time period. I take the log of shares traded since this is a rather large number. I report the sample medians of these trading activity variable in Table 7.[15] Panel A (B) reports the statistics by year (time period). I do not find any evidence of major changes in trading activity in this analysis, except there seems to be less trading activity in the post-enforcement time period. This could be that insiders are more fearful to trade in the post-enforcement period or that there is simply less time in this period within my sample since a large number of enforcements didn't occur until 2019 and my sample ends in the first half of 2020. Another concern might be that insiders trade only when it is most profitable for them to do so after MAR. I analyze this by comparing the changes in the log of shares traded across time periods by the top and bottom quartile of each measure of profitability. I report the results in Table 8.[16] I do not find any evidence that the changes in trading period from the pre-announcement to announcement period, from the announcement to the effective period, or from the effective period to the enforcement period are significantly different for the high and low profitability groups.

Last, I test whether the cumulative abnormal returns (CARs) are significantly different from zero for (0,1), (0,2) and (0,3) days around the announcement, implementation, and first MAR enforcement concerning insider trading in the country in which the firm's stock trades. I report the results in Table 9.[17] I find evidence that the market reacts negatively to these events. For example, the announcement (enforcement) value-weighted CARs average -19 (-41) bps for the event window (0,1), which is statistically different from 0 above the 99% significance level. I also find some evidence that equal-weighted CARs are significantly negative for the effective date and the first enforcement, perhaps highlighting the market's belief that insiders are more likely to be caught for their malicious insider trading in the future.

[15] Table 7 in Appendix
[16] Table 8 in Appendix
[17] Table 9 in Appendix

Conclusion

MAR brought about several major changes to the EU markets for the monitoring and punishment of market abuse, market manipulation, and insider trading. First, MAR is a regulation that is legally binding for all Member States, replacing the previous directive, MAD, that only required Member States achieve certain results using their own interpretation of the directive. MAR expanded the scope of financial instruments subject to monitoring. MAR established ESMA as the central authority for monitoring the activity of each Member State's competent authority's monitoring and enforcement actions. MAR significantly changed the sanctioning powers for the Member States' competent authorities, such as granting greater power to impose larger fines and banning individuals from market participation. MAR also brought a list of other changes to persons discharging managerial responsibilities and their participation in financial markets. Given all these changes, I argue MAR creates a plausibly exogenous shock to the cost of insider trading in the EU. To provide more evidence of this, I present univariate results that show insider trading profitability significantly changed after the announcement, implementation, and enforcement of MAR. Additionally, I show CARs around the announcement, implementation, and enforcement of MAR are significantly negative, perhaps highlighting the market's belief that insiders are more likely to be caught for their malicious insider trading in the future.

Chapter 2

Insider Trading Profitability and Culture

Abstract

This chapter examines the effects of firm- and country-level culture on insider trading behavior. To capture the effect, I examine differences in outcomes after the announcement, implementation, and first enforcement of the Market Abuse Regulation (MAR) in the European Union (EU). Results show that differences in culture lead to differences in insider trading profitability after MAR's announcement, implementation, and first enforcement. Insiders from high ESG firms tend to engage in less profitable insider trading after the first enforcement of MAR. Insiders from high ESG firms also tend to engage in more (less) profitable purchasing (selling) activity in the post-announcement and post-effective periods. But these effect varies by firm size. I also study the "E" and "S" portions of ESG and find these culture measures lead to differences in profitability in the post-MAR period. Insiders trading in highly individualistic countries tend to engage in less profitable trading after the first enforcement of MAR. Insiders trading in countries with high uncertainty avoidance and high corruption lead to more (less) profitable selling (purchasing) activity after the first enforcement of MAR.

Introduction

The Market Abuse Regulation (MAR) of 2014 repealed and replaced the Market Abuse Directive (MAD) of 2003 in the European Union (EU). This regulation brought major changes to the monitoring and punishment of market manipulation and insider dealing, also known as insider trading, for Member States in the EU which were legally binding rather than left to interpretation as was the case under MAD. First, the definition of insider dealing was updated to account for additional behaviors that were not covered under MAD, such as trading on inside information learned from an insider and the canceling or changing of orders. Second, the regulation expanded the scope of financial instruments that would be monitored, including instruments traded on multilateral trading facilities (MTFs), organized trading facilities (OTFs), and over-the-counter markets and including commodity derivatives, auctions on emission allowances, and spot contracts. Third, MAR increased the number of possible sanctions and increased the possible pecuniary amounts that could be assessed for these sanctions. MAR also established the authority of the European Securities and Markets Authority (ESMA) as the central governing body for monitoring the activities of each Member States' competent authority to ensure MAR is properly enforced throughout the EU. These are only some of the major changes MAR introduced, making it a rich environment for studying how it affected the behaviors of insiders after its announcement, implementation, and enforcement.

I focus on how insider trading behavior differed after MAR. In a world where preserving reputation is becoming increasingly important to avoid losses to firm value, I study how MAR changed insiders' attitudes towards their inside trades since getting caught conducting illegal insider trades could cause major losses to firm value. But this regulation effect could influence firms differently based on culture. If a firm has poor culture, then it's insiders might be less inclined to obey the new regulation since reputation is already poor. Conversely, if these insiders perceive they will be more likely targeted with investigations because of their poor reputation, then they could correct their ways in the post-MAR period. On the other hand, insiders from firm's with good culture could be more fearful of getting caught because of the bigger risks to their reputation and carry out less profitable trades in the post-MAR period. This could be especially true in recent times as investors are more likely to factor firm culture into investment decisions. This has even caught the attention

of regulators, where more disclosures around firms' sustainability have become mandatory. The European Union (EU) is leading the charge with their Sustainable Finance Disclosure Regulation (SFDR) that was passed on November 27, 2019 and became effective in March 10, 2021. According to an article from Quinn Emanuel Urquhart & Sullivan, LLP, this regulation requires firms to disclose on their websites how they account for "principal adverse impacts" from ESG risks and how they perform due diligence in understanding those risks.[18] The regulation's purpose is to allow investors to better understand and compare firm's ESG approaches. The article further mentions this regulation's focus is on due diligence rather than simple disclosure, enforcing the importance of proper ESG management. In this study, I aim to link firm culture to insider trading behavior. I also aim to extend my analysis to country culture because these cultural norms can also influence insiders and firms.

Using MAR as a plausibly exogenous shock to the cost of insider trading, I find firm-level culture appears to have an impact on insider trading. Specifically, using equal-weighted returns, I find insiders from high ESG firms engage in less profitable overall trading activity during the post-enforcement period. But when I use value-weighted returns, I find high ESG firms engage in more (less) profitable buying (selling) activity during the post-announcement and post-effective periods. For the "S" portion of ESG, I find insiders from high socially conscious firms engage in less profitable trading in the post-enforcement period and little difference in the post-announcement and post-effective periods when I use equal-weighted returns. This result seems to be driven by less profitable buying activity. I find insiders from high environmentally conscious firms engage in more profitable buying activity in the all three periods. These results could suggest insiders from high ESG firms are more concerned about preserving their reputation in the post-MAR period or that low ESG firms are less concerned about reputational losses in the post-MAR period since they already lack superior reputation, but this effect varies by type of trading activity and firm size.

Next, I study the effects of country-level culture on insider trading after MAR. I study three aspects of country-level culture: individualism, uncertainty avoidance, and corruption. I hypothesize each of these measures captures a level of risk aversion that could lead to differences in insider trading. Individualism measures the importance of looking after oneself rather than the collective

[18] Article titled "The EU's Increasing ESG Regulation and its Implications for Business"

group, meaning more individualistic insiders might be more willing to take risks to stand out from the crowd and collect on profitable insider trades after MAR. Uncertainty avoidance measures how important it is to avoid uncertain events, meaning insiders with high uncertainty avoidance could avoid collecting on profitable insider trades after MAR to avoid the uncertainty of being accused of illegal insider trading. Last, high corruption could mean insiders engage in more profitable trading after MAR, not fearing the new regulation's impact. I find the following: (1) high individualism leads to less profitable trading activity in the post-enforcement period; (2) high uncertainty avoidance leads to less (more) profitable buying (selling) activity in the post-enforcement period; and (3) high corruption leads to more (less) profitability buying (selling) activity in the post-announcement period but the effect flips in the post-enforcement period.

My main contribution is to the literature that studies the effects of firm- and country-level culture on insider trading activity. Gao et al. (2014) show executives of CSR-conscious firms in the US engage in less profitable insider trading. Skaife et al. (2013) show insiders engage in more profitable insider trading when the "tone at the top" is one of weak internal controls. Chung et al. (2019) show insiders from more tax aggressive firms engage in more profitable insider trading. Tourani-Rad et al. (2012) show uncertainty avoidance (individualism) is negatively (loosely) related to insider trading. However, a shortcoming of most previous international studies is the use of proxies to track insider trading activity, such as abnormal volume, abnormal price movements, and price run-ups, for insider trading (Bris (2005); Tourani-Rad et al. (2012)). As Ahern (2018) shows, proxies for insider trading are largely not accurate measures of informed trading. To avoid this, I use the 2iQ Global Insider Transaction Database which traces over 10 million transactions by over 500,000 insiders from over 60,000 stocks across 50 countries since 2000. Using this data and MAR as a plausibly exogenous shock to the cost of insider trading, I show both firm- and country-level culture lead to changes in insider trading profitability after MAR.

I also contribute to the literature on the effects of regulation on market outcomes. Fauver et al. (2017) study board reforms from 41 countries and find these reforms increase firm value. Chen et al. (2020) study international board reforms and find firms reduce cash holdings following these reforms. Liu and Tian (2012) find firms with excess control rights have more leverage and their controlling shareholders choose to tunnel rather invest in positive NPV projects after the Chinese

non-tradable shares reform. Gębka et al. (2017) find the market abuse directive (MAD) had little effect on insider trading profitability. Siems (2008) discusses the strengths and weaknesses of MAD. Among the weaknesses are (1) the inability to impose sanctions for inside trades conducted on unregulated markets, (2) the complicated process involved with regulating cross-border activities, and (3) difficulty for some Member States to effectively monitor and impose sanctions under the directive, especially since no European case law had been presented yet under the new directive. I show little difference for when the regulation is announced or becomes effective, but enforcement negatively contributes to insider trading profitability.

Literature Review and Hypothesis Development

Firm-Level Culture

Previous literature studies the effects of firm-level culture on insider trading in the US. Skaife et al. (2013) show insiders engage in more profitable insider trading when the "tone at the top" is one of weak internal controls. Chung et al. (2019) show insiders from more tax aggressive firms engage in more profitable insider trading. Gao et al. (2014) find insiders from US firms that are more socially conscious profit significantly less than other insiders from US firms that are less socially conscious. They posit CSR-conscious firms face negative costs to firm reputation if they engage in profitable insider trading, an activity viewed as self-serving in nature.

Previous literature also finds insiders tend to engage in illegal insider trading through selling rather than buying stock to avoid the negative consequences of holding a stock that will drop in value in the near future. Kallunki et al. (2018) find less wealthy insiders time their insider selling, and sell in greater volumes, to avoid price declines. Agrawal and Cooper (2016) find in cross-sectional analyses that top managers sell substantially more of their stock holdings during a misstated period.

Alternatively, firms with low ESG may be more concerned about the increased monitoring because of their poor reputation. Therefore, insider from low ESG firms may engage in less profitable trading compared to their peers from high ESG firms after MAR. It is possible that this result is driven by a reduction in profitability in selling activity given the previous research highlights the

tendency for insiders to avoid larger losses rather than to obtain greater gains. Formally, I present the following hypothesis.

Hypothesis 1: Firms with high ESG scores have insiders who engage in less or more profitable insider trading after MAR, where the result may be driven by a change in profitability of selling activity.

I also study the environment and social portions of ESG to to study their individual effects absent the governance portion of the score since these portions are receiving more media attention in recent history.

Country-Level Culture

Country-level culture could also influence insider trading profitability. Tourani-Rad et al. (2012) finds increased uncertainty avoidance is related negatively to insider trading, but individualism is not strongly related to insider trading. I also explore this connection between these two measures of country-level culture on insider trading profitability and also study a country's corruption effect. I hypothesize each of these measures captures a level of risk aversion that could lead to differences in insider trading. Individualism measures the importance of looking after oneself rather than the collective group, meaning more individualistic insiders are more willing to take risks to stand out from the crowd and collect on profitable insider trades after MAR. Uncertainty avoidance measures how important it is to avoid uncertain events, meaning insiders with high uncertainty avoidance will avoid collecting on profitable insider trades after MAR to avoid the uncertainty of being accused of illegal insider trading. I also study the effects of a country's corruption culture on insider trading profitability. Chen et al. (2020) finds accounting quality for firms is better after corrupt officials associated with the firm is arrested. Lewellyn and Bao (2017) find corruption positively correlates with earnings management. Liu (2016) finds corruption positively relates to opportunistic insider trading where insider trading is measured using price patterns for the 20 trading days after purchase transactions. Given these findings, high corruption in the country could mean insiders are less fearful of being caught for insider dealing. Thus, insiders from these countries are likely to engage in more profitable insider trading after MAR when compared to insiders from low corruption countries.

Conversely, I can expect the opposite for each country-level culture measure. Cline et al. (2021) find individualism leads to stricter regulation of insider trading because individualistic countries favor market efficiency and financial development over personal gains at the expense of others. Therefore, highly individualistic insiders could engage in less profitable trading after MAR, supporting the regulation's intentions to promote equality among investors in financial markets. MAR could also have an effect on decreasing the ambiguity associated with being accused or caught in illegal insider trading. Therefore, insiders from firms in countries with high uncertainty avoidance could engage in more profitable insider trading after MAR, being able to capture profits from their legal trading that could have been accused as illegal before MAR. Last, more corrupt countries could come under increased scrutiny from the new regulation that applies equally to all countries. Therefore, fearing this increased scrutiny could lead to massive fines and publication of offenses, insiders from more corrupt countries could engage in less profitable trading after MAR. Formally, I present the following hypothesis.

Hypothesis 2: Firms located in countries with high individualism, high corruption, or high uncertainty avoidance have insiders who engage in less or more profitable insider trading after MAR.

Channels of Effectiveness

One might question whether MAR would cause any changes in insider trading in the equity market. I present two possible channels for how this new regulation plausibly impacts trading in the equity market. First, a main objective of MAR was to expand the scope of financial instruments subject to the regulation as compared to the MAD. To avoid the increased oversight on these previously unmonitored financial instruments, insiders could substitute with equity trading to capture gains from inside information, fearing the new regulation will sway competent authorities to focus on the previously unmonitored instruments more than equity. If insiders from firms with low ESG scores care less about possible reputational losses from their profitable insider trading, then these insiders should engage in more profitable insider trading after MAR compared to insiders from firms with high ESG scores. Additionally, if insiders from firms located in countries with lower risk aversion - captured by high individualism, low uncertainty avoidance, and high corruption - care

more about capturing gains despite the risk, these insiders should engage in more profitable insider trading after MAR compared to insiders from firms located in countries with higher risk aversion.

Alternatively, the increased oversight in all financial markets could deter insiders from engaging in profitable insider trading in the equity market for fear the new regulation would bring additional scrutiny to the equity market as well. If insiders from firms with high ESG scores care more about preserving reputation, then these insiders should engage in less profitable insider trading after MAR compared to insiders from low ESG firms. Additionally, if insiders from firms located in countries with higher risk aversion - captured by low individualism, high uncertainty avoidance, and low corruption - care more about reputational losses than possible gains from insider trading, these insiders should engage in less profitable insider trading after MAR compared to insiders from firms located in countries with lower risk aversion.

Data and Methodology

Insider Trading and Firm Data

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2000. I use buy and sell, unautomated, non-mechanical transactions that result in a change of ownership. I use transactions from years 2011 to 2020 to allow for years surrounding when MAR was announced and became effective. I also want to study the insiders who are privy to sensitive firm information on which they could possibly trade. The 2iQ data has a classification code for the type of insiders included in the data. I limit my focus to the insiders with the following classifications: "A" - top insiders (executive board, chairman, top 5 insiders); "B" - upper level management (executive committee, top 20 insiders); "C" - non-executives, supervisory board, and Board of Directors; and "D" - lower level executives.[19]

I also collect data on US firms to have a control group of firms. I collect data on US insider trades from the Thomson Reuters Insider Filing Feed. I focus on transactions that are open market purchases or sells that are not tied to an option. I also focus on insiders that are directors, serve on committees, or are officers in their firms.

I gather firm-level data from Worldscope, including assets, debt, market value of equity, book value of equity, and net income. I calculate *Size* as the log of assets in U.S. dollars, *Leverage* as the ratio of debt to assets, return on assets (ROA) as the ratio of net income to assets, and *Tobin's q* as the market value of equity plus assets minus book value of equity all divided by assets. For my US sample, I collect firm data from Compustat.

To examine the profitability of insider transactions, I calculate the buy-and-hold returns (BHARs) for each transaction over 1-month, 3-month, and 6-month periods. I collect daily stock price data from Datastream for the 2iQ sample and from CRSP for the US sample for these calculations and use the following formula

$$BHAR = \Pi_{n=0}^{N}(1 + ret) - \Pi_{n=0}^{N}(1 + ewret)$$

where N is set to 22, 65, and 130 for the approximate number of trading days in 1 month, 3 months, and 6 months, respectively. *ewret* is the equal-weighted return based on the returns from the firms in the same country as the given firm. I also calculate the buy-and-hold returns using a value-weighted return, replacing *ewret* with *vwret*. To capture the profitability of inside selling

[19] My results remain consistent with the ones I present if I define insiders more generally than those defined above.

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[20]ESMA report "Peer Review on the collection and use of STORs under the Market Abuse Regulation as a source of information in market abuse investigations"

Culture Data

I measure culture at the firm level and the country level. For firm-level culture, I use the Asset4 ESG data. I use the Asset4 A4IR score, which is a score that incorporates all measures of ESG. Asset4 uses over 250 key performance indicators to calculate this score. More than 100 analysts collect data from up-to-date publicaly available sources, such as annual reports, CSR reports, and NGO websites, and use their experience to use the relevant data and make it comparable from one company to another. I also use the social score and the environmental score to examine the "E" and "S" portions of ESG as these aspects of firm culture have received increased media attention in recent history. The social score incorporates employment quality, health and safety, training and development, diversity, human rights, community, and product responsibility. The environmental score incorporates resource reduction, emission reduction, and product innovation. I classify a firm as high ESG, highly socially conscious, or highly environmentally conscious if the Asset4 A4IR, social, or environmental score is above the sample median, respectively.

I obtain country-level culture data from Hofstede (2001), using the updated values provided in 2011. I use the measures based on the following: (1) individuality - the extent to which the society believes one should only be responsible for his/her own well-being; and (2) uncertainty avoidance - the extent a society feels threatened by uncertain situations. Each of these scores range from 0 to 100. I classify high individualism or high uncertainty avoidance as country scores above the sample median in the respective category. I also obtain perceived corruption scores from Transparency International's Corruption Perceptions Index (CPI). This index aggregates data from numerous reliable sources to measure the level of corruption in the public sector for each country based on perceptions of business people and country experts. This score ranges from 0 to 100 where 0 indicates the highest level of corruption and 100 the lowest. I classify a country as highly corrupt if the country's score is below the sample median corruption score.

Methodology

I first want to determine if insider trading profitability changed after MAR, regardless of culture, to provide preliminary evidence that MAR serves as an exogenous shock to the cost of insider trading. Therefore, I test for univariate differences in insider trading profitability during different

time periods for each measure of culture. I split the sample into transactions with trade dates prior to April 16, 2014 (the pre-announcement period), trade dates between April 16, 2014 and July 3, 2016 (the post-announcement period), trade dates on or after July 3, 2016 but before the first publication of a MAR enforcement involving insider trading on the country in which the firm's stock trades (the post-effective period), and trade dates on or after the first publication of a MAR enforcement involving insider trading on the country in which the firm's stock trades (post-enforcement period). MAR enforcements can apply to market abuse, market manipulation, or illegal insider trading. Since this study focuses on the behavior of insider traders, I focus on the events most likely to influence their behavior, namely the enforcements involving illegal insider trading.

To test the effect of culture on insider trading profitability after MAR in a multivariate setting, I employ a difference-in-difference-in-difference (DDD) design as follows:[21]

$$BHAR_i = Ann + Ann * Culture + Eff + Eff * Culture + Enf + Enf * Culture$$
$$+ Ann * Controls + Eff * Controls + Enf * Controls + \epsilon$$

i indicates the month of the buy-and-hold return which can take a value of 1, 3 or 6. The firm-level measures of culture are *High ESG*, an indicator variable that takes a value of 1 if the firm has an ESG score above the sample median, *High Soc*, an indicator variable that takes a value of 1 if the firm has a social score above the sample median, and *High Env*, an indicator variable that takes a value of 1 if the firm has an environment score above the sample median. The country-level measures of culture are *High IDV*, an indicator variable that takes a value of 1 if the country in which the firm's stock trades has a Hofstede individualism score above the sample median, *High UAI*, an indicator variable that takes a value of 1 if the country in which the firm's stock trades has a Hofstede uncertainty avoidance score above the sample median, and *High Corrupt*, an indicator variable that takes a value of 1 if the country in which the firm's stock trades has a Transparency International Corruption Perceptions Index (CPI) score below the sample median. *Ann* is an indicator variable that takes a value of 1 if the transaction's trade date lies in the post-announcement period and the country in which the firm's stock trades is in the EU. *Eff* is an

[21]The first difference results from *Ann*, *Eff*, and *Enf* because these variables will only take a value of 1 for firms whose stock trades in the EU and the second difference results from difference in culture measures.

indicator variable that takes a value of 1 if the transaction's trade date lies in the post-effective period and the country in which the firm's stock trades is in the EU. *Enf* is an indicator variable that takes a value of 1 if the transaction's trade date lies in the post-enforcement period and the country in which the firm's stock trades is in the EU. I include firm fixed effects to account for time-invariant firm characteristics and industry-year fixed effects to account for industry-time trends. Last, I cluster standard errors by firm to account for correlations between firms. As I hypothesized earlier, I anticipate firm- and country-level culture will lead to different responses to the stricter insider trading regulation under MAR.

Results

I present univariate results in Table 10 using the EU sample.[22] Panel A reports the difference in means of insider trading profitability in the post-announcement period. It compares low to high values for each culture measure. I find there are a multitude of significant differences for all culture measures, providing preliminary evidence that culture caused insiders to trade differently in the post-announcement period. Panel B (C) performs the same test during the post-effective (post-enforcement) period. I continue to see significant differences between the two subsamples of culture across all profitability and culture measures. As in Panel A, these results provide preliminary evidence that trading activity differed in the post-effective and post-enforcement periods as well.

I also split my sample by whether the firm's stock trades in a common or civil law country. Since common law bases its rulings on precedent of similar cases in addition to the regulations in place but civil law relies solely on the regulation in place, this measure of country-level culture could lead to differences in insider trading profitability in the post-MAR period. In Table 11, I report the summary statistics by type of law, where Panel A (B) reports results on the common (civil) law firms.[23] I only report the pre-announcement, post-anouncement, and post-effective periods because there is only one common law country in the EU, the United Kingdom, and it does not have an enforcement under MAR. It does appear there are differences between these two subsamples. Therefore, I test whether there are differences in the means of these subsamples by

[22] Table 10 in Appendix
[23] Table 11 in Appendix

period and present the results in Table 12.[24] I find mostly that profitability is more negative for firms trading under common law. This could mean insiders fear more scrutiny from regulators under common law because it is not restricted to the regulation itself. I do not use this measure of culture in later analyses because of the lack of enforcement in the United Kingdom.

My first multivariate test uses the Asset4 ESG score. I present the results in Table 13.[25] Panel A (B) uses the equal- (value-) weighted returns. I note that all tables have controls, but the results are slightly stronger without them. In Panel A, I find no evidence of a change in profitability for insiders from high ESG firms in the post-announcement and post-effective periods. But during the post-enforcement period, I find insiders from high ESG firms engage in less profitable trading based on 1-month and 6-month BHARs. I find the announcement, implementation, and enforcement lead to little changes in trading profitability. In Panel B, I find insiders from high ESG firms engage in more (less) profitable buying (selling) activity in the post-announcement period and less profitable selling activity in the post-effective period. To illustrate, 1-, 3-, and 6-month BHARs are 0.020, 0.053, and 0.091 higher for buying activity in the post-announcement period, representing a difference of 0.177, 0.271, and 0.330 standard deviations, respectively. The 1-, 3-, and 6-month BHARs are 0.023, 0.036, and 0.095 lower for selling activity in the post-announcement period, representing a difference of 0.204, 0.184, and 0.344 standard deviations, respectively. I find no evidence of changes in the post-enforcement period. In interpreting the results from Panel A in comparison to Panel B, it appears firm size leads to different effects on insider trading profitability. For buying activity, I interpret this result as insiders from low ESG firms being more fearful of detection in the post-MAR period. Therefore, they engage in less profitable trading after MAR becomes announced to show good faith to regulators and continue trading less profitably after MAR becomes effective and when it is first enforced. For the selling activity, I interpret this result as insiders from high ESG firms taking measures to avoid losses to reputation should they get caught in nefarious insider selling since previous literature highlights that selling activity is more likely to be nefarious in nature.

Next, I examine the effects of social consciousness on insider trading profitability. I present the results in Table 14.[26] Panel A (B) uses the equal- (value-) weighted returns. In Panel A, I find

[24] Table 12 in Appendix
[25] Table 13 in Appendix
[26] Table 14 in Appendix

insider from high socially conscious firms engage in less profitable trading in the post-effective and post-enforcement periods, but little difference in the post-announcement period. This result seems to be driven by less profitable buying activity. In Panel B, I find little differences in profitability for all time periods. I interpret these results as insiders from high socially conscious firms are interested in preserving their good reputation of fairness and equality. Therefore, these insiders engage in less profitable trading during the announcement and effective periods because they do not want to be caught engaging in an activity that promotes the well-being of one person at the expense of others, which is in direct opposition of their firm's reputation for fairness and equality. But preserving reputation by decreasing profitability in their trades varies by firm size.

I also examine the effects of environment consciousness on insider trading profitability. I present the results in Table 15.[27] Panel A (B) uses the equal- (value-) weighted returns. In Panel A, I find little evidence of differences in profitability during all three time periods. In Panel B, I find insiders from high environmentally conscious firms engage in more profitable buying activity in the all three time periods, but this result is only significant for 6-month BHARs. I also find marginally significant results that these insiders engage in less profitable buying during the post-announcement and post-enforcement periods. I interpret the results from Panel B as insiders from firms that are highly environmentally conscious are less fearful of being caught in their buying activity, but are more fearful of possible losses to reputation that could result from trying to avoid major losses.

Turning to country-level culture, I first test the effects of individuality on insider trading behavior. I present the results in Table 16.[28] Panel A (B) uses the equal- (value-) weighted returns. In Panel A, I find insiders from firms trading in countries with high individualism engage in less profitable selling activity during the post-announcement period, but no difference in the post-effective period. I find enforcement itself leads to significantly lower profitability for selling activity. I find high individualism leads to even lower profitability in the post-enforcement period, where this result is driven by lower profitability in buying activity. Panel B presents similar results as Panel A, except the post-announcement results are no longer significant. This decrease in profitability supports the hypothesis that high individualism leads insiders to favor market efficiency to capture

[27] Table 15 in Appendix
[28] Table 16 in Appendix

gains or avoid losses from their trades rather than taking advantage of their information at others' expense.

I then test the effects of uncertainty avoidance on insider trading behavior. I present the results in Table 17.[29] Panel A (B) uses the equal- (value-) weighted returns. In Panel A, I find evidence that enforcement itself leads to lower profitability. I also find insider from countries with high uncertainty avoidance engage in less (more) profitable buying (selling) activity in the post-enforcement period. In Panel B, I find the same effect in the post-announcement period for selling activity, but the result is no longer significant in the post-enforcement period. The more profitable selling activity could mean the trading environment became more informative to investors on what constitutes insider trading, meaning insiders can more effectively avoid losses from insider trades in legal ways where they would have been fearful of being wrongly accused of illegal trading before MAR. The less profitable buying activity could be interpreted from the perspective of the countries with low uncertainty avoidance. Since these countries are less fearful of uncertain events, they could be less fearful of the uncertain event of being caught engaging in illegal insider trading. Therefore, insiders from firms trading in these countries could be less inclined to forego profits on insider trading in the post-MAR period.

Last, I test the effects of corruption on insider trading behavior. I present the results in Table 18.[30] Panel A (B) uses the equal- (value-) weighted returns. In Panel A, I find insiders from countries with high corruption engage in less profitable selling activity during the post-announcement period and less (more) profitable buying (selling) activity in the post-enforcement period. In Panel B, I find enforcement itself leads to lower profitability, but little difference based on corruption. After the first enforcement, it appears insiders from firms trading in corrupt countries are less fearful of being caught for illegal insider trading on the sell side and more fearful on the buy side. Therefore, they are more willing to avoid losses and less willing to capture gains from their trades in the post-enforcement period. But this result is likely driven by small firms since the equal-weighted returns give more weight to small firms.

[29] Table 17 in Appendix
[30] Table 18 in Appendix

To mitigate concerns that these results did not occur in the post-announcement, post-effective, and post-enforcement periods, I interact each measure of culture with year indicator variables and with an indicator variable *EU* that takes a value of 1 if the country in which the firm's stock trades is in the EU. I present the results in Table 19 for high ESG scores.[31] Ideally, I would find no evidence of an effect in the years before MAR's announcement. I find no evidence that profitability differed in the year before MAR was announced. I find there are effects similar to those in Table 13 for the years on or after the announcement, implementation, and enforcement of MAR. To preserve space, I only tabulate the results for high ESG, but I find similar results for all other culture measures, where the results are significant on or after MAR was announced and the results, if significant, in the year before MAR was announced are marginally significant and are not consistent across all profitability measures.

Conclusion

I study the effects of firm- and country-level culture on insider trading behavior. Since culture is often endogenously built into the nature of the firm, I exploit the plausibly exogenous shock to the cost of insider trading, the Market Abuse Regulation (MAR). The regulation brought significant changes to the EU regulatory landscape for monitoring and punishing market abuse, market manipulation, and illegal insider trading. I study three important dates for the regulation, its announcement on April 16, 2014, its implementation on July 3, 2016, and its first enforcement involving illegal insider trading in the country in which the firm's stock trades. The firm-level culture variables are ESG scores and the E and S (environment and social) portions of ESG. The country-level culture variables are Hofstede individualism and uncertainty avoidance scores and Transparency International's Corruption Perceptions Index (CPI) scores.

First, I find the announcement and implementation of the regulation led to little differences in insider trading profitability, but the first enforcement contributes negatively to insider trading profitability. For firm-level culture, I find insiders from high ESG firms engage in less profitable overall trading activity during the post-enforcement period and more (less) profitable buying (selling) activity during the post-announcement and post-effective periods. But this effect varies by firm

[31] Table 19 in Appendix

size. Using equal-weighted returns, I find insiders from high socially conscious firms engage in less profitable trading in the post-enforcement period, but little difference in the post-announcement and post-effective periods. This result seems to be driven by less profitable buying activity. I find insiders from high environmentally conscious firms engage in more profitable buying activity in the post-announcement period. These results could suggest insiders from high ESG firms are more concerned about preserving their reputation in the post-MAR period or that low ESG firms are less concerned about reputational losses in the post-MAR period since they already lack superior reputation, but this effect varies on the type of trading activity and firm size.

For country-level culture, I find high individualism leads to less profitable trading activity in the post-enforcement period, which could mean insiders from more individualistic countries favor regulation that promotes market efficiency. I also find high uncertainty avoidance leads to less (more) profitable buying (selling) activity in the post-enforcement period and high corruption leads to more (less) profitability buying (selling) activity in the post-announcement period but the effect flips in the post-enforcement period.

Chapter 3

Enforcement of the Market Abuse Regulation

Abstract

This chapter examines the enforcement effects of the Market Abuse Regulation (MAR) in the European Union (EU) on firm outcomes. Market reactions are significantly negative for the publication of sanctions imposed under MAR. This negative reaction is stronger when the enforcement (1) involves illegal insider trading, (2) is against a legal rather than natural person, (3) imposes a larger pecuniary amount, and (4) was conducted prior to COVID-19 pandemic. This effect differs by firm- and country-level culture. Firm value increases after the first European Securities and Market Authority (ESMA) publication of MAR enforcements for high ESG firms and high environmentally conscious firms. I find no differences in firm value based on differences in country-level culture or average firm insider trading profitability.

Introduction

In 2011, the European Commission realized that an update to the laws on monitoring and punishing market abuse, market manipulation, and illegal insider trading was needed for the Member States in the European Union (EU). The result was the Market Abuse Regulation (MAR), which was announced on April 16, 2014 and became legally binding for all Member States on July 3, 2016. MAR brought significant changes to the regulatory landscape in the EU. MAR (1) expanded the scope of financial instruments subject to the regulation, (2) established the European Securities and Markets Authority (ESMA) as the central authority for monitoring the activities of each Member State's competent authority, (3) redefined market abuse, market manipulation, and illegal insider trading, (4) increased reporting requirements, and (5) increased the sanctioning powers of each Member State's competent authority. But does it matter to have a regulation in place if it is not enforced? Enforcement is defined as the act of compelling observance of or compliance with a law, rule, or obligation.[32] Thus, I study market reactions to MAR enforcements to better understand how these events affect firms. I also study how firm value responds after the first enforcements in each country to understand how various firm characteristics contribute to firm value after these enforcements.

When studying the market reactions of these MAR enforcements, I find the market reacts negatively to these events. This negative reaction is stronger when the enforcement (1) involves illegal insider trading, (2) is against a legal rather than natural person, (3) imposes a larger pecuniary amount, and (4) was conducted prior to COVID-19 pandemic. For most of these characteristics, I find the effect differs based on all measures of firm- and country-level culture.

Next, I study the effects of enforcement, culture, and insider trading profitability on firm value in the post-enforcement period. I find that the first publication of an enforcement of MAR involving illegal insider trading does not lead to significant changes in firm value. However, not all countries publish the sanctions imposed under MAR. Therefore, I study the effects of the first publication from the European Securities and Markets Authority (ESMA) on MAR enforcements. This report aggregates by country the number and pecuniary amounts of sanctions imposed from all the Member States in the EU. It further breaks down the sanctions by infringement type, i.e. illegal insider

[32] Definition from Oxford English Dictionary

trading or market manipulation. This report makes it easy for market participants to learn of sanctions imposed. I find firm value for high ESG firms and high environmentally conscious firms experience increases in firm value after this publication. I also find no differences in firm value based on the profitability of insider trades during the post-effective period. Overall, I find that culture does cause changes in insider trading behavior, market reactions, and firm value.

I contribute to the literature that insider trading regulations have greater impact once they are enforced. Bhattacharya and Daouk (2002) find the countries that have enforced insider trading regulation have lower costs of equity than countries that have insider trading regulations but have not enforced these regulations. Bris (2005) finds first-time enforcements of insider trading regulation increases the incidence and profitability of insider trading. Fernandes and Ferreira (2009) find first-time enforcements of insider trading laws improves price-informativeness. Jayaraman (2012) finds first-time enforcement of insider trading laws in 16 countries contributes to significant increases in timely loss recognition. Chen et al. (2017) find first-time enforcements of insider trading laws improve capital allocation efficiency. I find these enforcement events exhibit significantly negative market reactions and lead to changes in firm value based on firm-level culture.

I also contribute the the literature that studies market reactions to negative firm events. Aussenegg et al. (2018) find the initial trading enforcement (ITE) contributes negatively to the CARs for insider purchase transactions. Niessner (2013) find the disclosure of negative firm events contributes negatively to the firm's CARs and managers time their inside trades strategically when they disclose these events. Thevenot (2012) find significantly negative CARs around firms' restatement announcements. Song and Han (2017) find negative market reactions to the announcements of corporate crime. I document significantly negative market reactions around the publication of MAR sanctions where different characteristics of the enforcements amplify or mitigate the negative reaction.

Last, I contribute to the literature that studies the effects of firm- and country-level culture on firm value. Fauver et al. (2018) show firms with more employee friendly cultures are valued higher. Zolotoy et al. (2019) show strong local religious norms in the area surrounding firm's headquarters increase the positive effect of CSR on firm value. Edmans (2011) shows a value-weighted portfolio of the "100 Best Companies to Work for in America" earned significant four-factor alphas above

industry benchmarks. Using several measures of both firm- and country-level culture, I find firm-level culture has an effect on firm value after the ESMA publishes MAR enforcements.

Literature Review and Hypothesis Development

Market Reactions

I expect the market to react to MAR enforcements. Aussenegg et al. (2018) find the initial trading enforcement (ITE) contributes negatively to the CARs for insider purchase transactions. Niessner (2013) find the disclosure of negative firm events contributes negatively to the firm's CARs and managers time their inside trades strategically when they disclose these events. Thevenot (2012) find significantly negative CARs around firms' restatement announcements. Since a MAR enforcement can be reasonably assumed negative in nature, I expect the market reaction to be negative around these events.

I also analyze other factors that could amplify or dampen this negative effect. First, since MAR covers both market manipulation and insider dealing, I hypothesize if the enforcement involved an infringement of insider dealing, then the market reaction will be more negative because this can be viewed as a more nefarious crime. Second, MAR enforcements can be charged against the firm or a person involved with the firm. I hypothesize that enforcements charged against the firm will lead to more negative CARs since these fines detract from firm performance. Third, I hypothesize the sanctions with larger pecuniary amounts will illicit more negative market reactions. Fourth, I analyze the market reaction to enforcements during the COVID-19 pandemic. On one hand, the market reaction could be more negative because investors view the firm in a more negative light during a time of crisis. On the other hand, the market reaction could be less harsh during the pandemic given how many firms have tried to assist their clients in new ways during this pandemic. Therefore, I hypothesize COVID-19 pandemic could contribute positively or negatively to the market reaction. Fifth, I examine whether the country in which the enforcement occurred and the country in which the firm's stock trades is the same has an effect on the market reaction. I hypothesize a stronger negative reaction will occur around these enforcements since investors are more likely to read the publication of these notices, especially if they are published in the country's native language. Last, I examine whether the profitability of insider trading leads to differences in

market reactions. Market participants could view the more profitable firms as more nefarious, believing they are engaging in illegal insider trading, leading to a more negative market reaction. But market participants could view these firms as less nefarious because the more profitable trades are most likely legal or they would not have transacted fearing the increased scrutiny from authorities.

I also examine how culture influences the market reactions around these MAR enforcements. I hypothesize high ESG, high individualism, high uncertainty avoidance, and high corruption could contribute positively or negatively to the market reactions around these enforcements. First, high ESG could lead to less negative market reaction if investors believe these firms are not engaging in illegal insider trading. However, high ESG firms engage in activities that do not promote firm value, such as giving to charities and pursuing zero emissions policies. Therefore, the market reactions could be more negative for these firms after MAR enforcements because investors perceive these firms will engage in more spending to promote their ESG status to avoid detection of illegal insider trading after these enforcements. Second, high individualism could lead to less negative market reactions if investors believe firms will behave in line with the regulation going forward in the promotion of market efficiency. However, the market reaction might be more negative in theses countries to punish the firms for misbehaving and not promoting market efficiency. Third, high uncertainty avoidance could illicit a less negative market reaction because investors believe the firms will discontinue their illegal insider trading to avoid the uncertainty of getting caught. But the market reaction might be more negative because market participants view this event more negatively when it happens in a more informative regime on what would be punished as illegal insider trading. Last, high corruption could lead to less negative market reactions if market participants view enforcement as a positive event because the natural or legal person was not able to bribe their way out of being sanctioned. But high corruption could lead to more negative market reactions if these events reinforce the idea that firms are corrupt and engage in illegal activities.

Firm Value

If investors associate high ESG with a culture focused on working for the collective good rather than serving individuals at the expense of others, then high ESG firms should also see an increase in firm value after an enforcement under MAR. Conversely, firms with a high ESG culture could

lead management to spend money on initiatives that take away from firm value. After a MAR enforcement, firms may spend more to promote their ESG status to avoid scrutiny from authorities, further decreasing firm value. Therefore, firm value could decline after a MAR enforcement. Overall, the effect of the first MAR enforcement on firm value is ambiguous.

Like firm-level culture, country-level culture could influence firm value after MAR. If high individualism or corruption leads insiders to promote firm value to increase the profitability of their trades, then high individualism or corruption should lead to increases in firm value after MAR. On the other hand, if high individualism or corruption leads insiders to promote their personal wealth over firm value, then high individualism or corruption should lead to decreases in firm value after MAR. If high uncertainty avoidance leads insiders to avoid too much risk to remain safe, then high uncertainty avoidance should lead to decreases in firm value after MAR. Alternatively, if high uncertainty avoidance leads insiders to conduct profitable but legal trades in a more informative environment, then high uncertainty avoidance should lead to increases in firm value after MAR. Therefore, I hypothesize firms with high ESG or firms that trade in countries with high individualism, high corruption, or high uncertainty avoidance experience an increase or decrease in firm value after a MAR enforcement.

Data and Methodology

Published Sanctions Data

For each Member State in the EU, I search for sanctions on the competent authority's website related to MAR. I first search using the English version, if available, using combinations of keywords "sanction", "fine", and "penalty" with "Market Abuse Regulaton", "MAR", "market abuse", or "596/2014". I use "596/2014" because MAR is officially known as Regulation (EU) No 596/2014. Once I collect the results from these searches, I then go to the native language version of the website and search for the same combinations of keywords translated into the native language. Using this search method, I find 294 sanctions from 11 countries. The other Member States may not have published their sanctions since MAR does allow sanctions not be published if the infringement does not jeopardize the stability of the financial market or the measure is minor in nature. Additionally, ESMA released a report on the use of suspicious transaction and order reports (STORs) and com-

pliance of enforcement and sanctions related to these STORs.[33] The report details several Member States are only partially compliant - Denmark, Estonia, Greece, Croatia, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, and Iceland - and some are fully non-compliant - Cyprus and Liechtenstein - with the use of STORs and proper enforcement of sanctions. Therefore, I consider the search results considerably return most of the sanctions that have been published on competent authority's websites. From these sanctions, I collect data on the person being sanctioned, whether the person is a natural or legal person, the pecuniary amount, and whether the sanction was related to insider trading or market manipulation. For sanctions against natural persons, I collect the name of the related legal person, if available. I use these legal names and search for them on the Worldscope company data to find the ISIN number for the legal person.

Culture Data

I measure culture at the firm level and the country level. For firm-level culture, I use the Asset4 ESG data. I use the Asset4 A4IR score, which is a score that incorporates all measures of ESG. Asset4 uses over 250 key performance indicators to calculate this score. More than 100 analysts collect data from up-to-date publicaly available sources, such as annual reports, CSR reports, and NGO websites, and use their experience to use the relevant data and make it comparable from one company to another. I also use the social score and the environmental score to examine the "E" and "S" portions of ESG as these aspects of firm culture have received increased media attention in recent history. The social score incorporates employment quality, health and safety, training and development, diversity, human rights, community, and product responsibility. The environmental score incorporates resource reduction, emission reduction, and product innovation. I classify a firm as high ESG, highly socially conscious, or highly environmentally conscious if the Asset4 A4IR, social, or environmental score is above the sample median, respectively.

I obtain country-level culture data from Hofstede (2001), using the updated values provided in 2011. I use the measures based on the following: (1) individuality - the extent to which the society believes one should only be responsible for his/her own well-being; and (2) uncertainty avoidance - the extent a society feels threatened by uncertain situations. Each of these scores range from 0 to

[33]ESMA report "Peer Review on the collection and use of STORs under the Market Abuse Regulation as a source of information in market abuse investigations"

100. I classify high individualism or high uncertainty avoidance as country scores above the sample median in the respective category. I also obtain perceived corruption scores from Transparency International's Corruption Perceptions Index (CPI). This index aggregates data from numerous reliable sources to measure the level of corruption in the public sector for each country based on perceptions of business people and country experts. This score ranges from 0 to 100 where 0 indicates the highest level of corruption and 100 the lowest. I classify a country as highly corrupt if the country's score is below the sample median corruption score.

Insider Trading and Firm Data

Previous research studies the effect of insider trading regulations on insider trading profitability. However, previous studies in international settings use proxies for insider trading to capture insider trading activity. For example, Bris (2005) uses abnormal volume and price movements before tender offer announcements as proxies for insider trading to show insider trading law enforcement from 52 countries increases the incidence and profitability of insider trading from 1990 to 1999. Tourani-Rad et al. (2012) use price run-ups and abnormal volume data to show uncertainty avoidance (individualism) is negatively (loosely) related to insider trading from 1990 to 2008. Using proxies could bias results if they do not accurately measure what they are intended to capture. Ahern (2018) finds most standard illiquidity measures are not statistically and economically robust predictors of illegal insider trading, and those that were robust were only robust predictors in the short-term.

I aim to alleviate the ambiguity of using proxies through using the 2iQ Global Insider Transaction Database which tracks global insider transactions. The 2iQ database traces over 10 million transactions by over 500,000 insiders from over 60,000 stocks across 50 countries since 2000. This database also covers each region of the world for an average of 12 years. In this study, I limit my focus to European countries affected by MAR. 2iQ covers about 14,000 securities in Europe since 2000. I use buy and sell, unautomated, non-mechanical transactions that result in a change of ownership. I use transactions from years 2011 to 2020 to allow for years of data before the announcement of MAR and after MAR became effective. I also want to study the insiders who are privy to sensitive firm information on which they could possibly trade. The 2iQ data has a classification code for the type of insiders included in the data. I limit my focus to the insiders with

the following classifications: "A" - top insiders (executive board, chairman, top 5 insiders); "B" - upper level management (executive committee, top 20 insiders); "C" - non-executives, supervisory board, and Board of Directors; and "D" - lower level executives.[34]

I also collect data on US firms to have a control group of firms. I collect data on US insider trades from the Thomson Reuters Insider Filing Feed. I focus on transactions that are open market purchases or sells that are not tied to an option. I also focus on insiders that are directors, serve on committees, or are officers in their firms.

I gather firm-level data from Worldscope, including assets, debt, market value of equity, book value of equity, and net income. I calculate *Size* as the log of assets in U.S. dollars, *Leverage* as the ratio of debt to assets, return on assets (ROA) as the ratio of net income to assets, and *Tobin's q* as the market value of equity plus assets minus book value of equity all divided by assets. For my US sample, I collect firm-level data from Compustat.

To examine the profitability of insider transactions, I calculate the buy-and-hold returns (BHARs) for each transaction over 1-month, 3-month, and 6-month periods. I collect daily stock price data from Datastream for my 2iQ sample and from CRSP for my US sample for these calculations and use the following formula

$$BHAR = \Pi_{n=0}^{N}(1 + ret) - \Pi_{n=0}^{N}(1 + ewret)$$

where N is set to 22, 65, and 130 for the approximate number of trading days in 1 month, 3 months, and 6 months, respectively. *ewret* is the equal-weighted return based on the returns from the firms in the same country as the given firm. I also calculate the buy-and-hold returns using a value-weighted return, replacing *ewret* with *vwret*. To capture the profitability of inside selling activity, I multiply the BHARs for sell transactions by -1. The control variables *Size*, *Leverage*, and ROA are three-year averages from 2011 to 2013 for each firm. I use these average values to control for pre-announcement trends. To mitigate the effect of outliers, I winsorize all control variables at the 1% and 99% level.

[34] My results remain consistent with the ones I present if I define insiders more generally than those defined above.

Market Reactions Data

I use Datastream daily stock price data to calculate the cumulative abnormal returns (CARs) around each enforcement and the announcement and effective dates of MAR. I use windows of 0 to +1 days, 0 to +2 days, and 0 to +3 days. I assume no information leakage about the sanctions because competent authorities are required to immediately publish sanctions they impose on their websites under MAR. I calculate the CARs using the market model where the benchmark is the equal- or value-weighted return for the country in which the firm's stock trades.

Methodology

I study market reactions to the publications on these enforcement events. For each event window, I first test whether the full sample of CARs are statistically significantly different from 0. I then test whether the sample of CARs related to events of insider dealing enforcement are statistically significantly different from 0. I also test whether the firms involved in the enforcements have CARs statistically significantly different from 0. I then split the sample of CARs to perform several t-tests on the differences in CARs between the two subsamples. I split by the sample median of the pecuniary amount of the sanction, whether the event date was after the first COVID-19 lockdown for the countries in my sample, whether the event was imposed on a legal person, whether the firm's mean insider trading profitability increased after MAR became effective, and by the sample median of the firm and country-level culture measures. For each of these measures, I add the requirement that the event occurred in the country in which the firm's stock trades to determine whether the results are stronger when there is a closer tie to the enforcement. I then use these different split variables in a multivariate setting to determine which of these variable contribute to CARs. I use the following OLS regression specification:

$$CAR\ (0,i) = Ctry + Split\ \ Variable + Split\ \ Variable * Ctry + Controls + \epsilon$$

Ctry is an indicator variable that takes a value of 1 if the enforcement occurred in the country in which the firm's stock trades. *Split Variables* include *Inside*, an indicator variable that takes a value of 1 if the enforcement involves insider dealing, *Legal*, an indicator variable that takes a value

of 1 if the enforcement is against a legal person, *High Amt*, an indicator variable that takes a value of 1 if the enforcement has a pecuniary amount above sample median by country, and *COVID-19*, an indicator variable that takes a value of 1 if the enforcement date is after the first COVID-19 lockdown in the sample. Controls are lagged by one year prior to the year of enforcement and include size, leverage, and return on assets.

I also test whether culture amplifies the determinant effect for each of these split variables in following OLS regression specification:

$$CAR\ (0,i) = Culture + Split\ \ Variable + Split\ \ Variable * Culture + Controls + \epsilon$$

Culture is one of the firm- or country-level culture variables as previously defined.

I then test whether firm- and country-level culture influence firm value after MAR. I employ a difference-in-difference-in-difference (DDD) design as follows:

$$Tobin's\ \ q = Post + Post * Culture + Post * Controls + \epsilon$$

Tobin's q is the market value of equity plus assets minus book value of equity all divided by assets. The treatment group is identified using the measure of culture. The measures of culture are the same for these tests as those used for the tests on insider trading profitability described above. *Post* is in an indicator variable that takes a value of 1 if the trade date of the inside transaction is after the first publication of a sanction in the country in which the firm's stock trades. I include firm fixed effects to account for time-invariant firm characteristics and industry-year fixed effects to account for industry-time trends. I cluster standard errors by firm to account for correlations between firms. I also test whether the profitability of insider trading influences firm value. I replace *Culture* with a measure of insider trading profitability to determine whether MAR had an effect on firm value through its effect on insider trading profitability.

Results

Market Reactions

I study the market reactions of the published enforcements. The first test is determine whether the mean of the CARs for all these events are statistically different from 0 for event windows (0,1), (0,2), and (0,3) days around the event. I report thee results in Table 20.[35] I find strong evidence that the means of both equal- and value-weighted CARs are significantly less than 0 for all event windows. The CARs are generally more negative when I only examine the CARs for events that occurred in the same country as the country in which the firm's stock trades. The next test examines the CARs for insider dealing enforcements, and I report the results in Table 21.[36] Again, I find the means of both equal- and value-weighted CARs are significantly less than 0. Furthermore, the means are more negative than for all the events.

Next, I split the sample by the pecuniary amount of the sanctions. For each country of enforcement, I split the events by high and low pecuniary amounts using the sample median. I then merge this high amount indicator to the full sample matching on the event date and country of enforcement. I report the results in Table 22.[37] Largely, I find CARs are lower for events involving higher sanctions, and the effect is intensified when the enforcement country is the same as the country in which the firm's stock trades. For the equal-weighted CARs where the country matches, I find CARs are significantly different by 25, 26, and 30 bps for the (0,1), (0,2), and (0,3) CARs, respectively, representing a 357%, 118%, and 70% change in the mean. The difference is larger only for the value-weighted CARs when the country is the same as the country in which the firm's stock trades. Next, I split the sample by whether the enforcement date is after the first COVID-19 lockdown among the countries in the sample and report the results in Table 23.[38] Since the test uses the difference between the pre-period and post-period, the negative difference indicates the CARs are significantly higher after the COVID-19 lockdown, possibly alluding to the belief that firms will behave more appropriately after the enforcement, especially in a time of crisis. Next, I split the sample by whether the enforcement was against a legal person and report results in

[35] Table 20 in Appendix
[36] Table 21 in Appendix
[37] Table 22 in Appendix
[38] Table 23 in Appendix

Table 24.[39] I find the CARs are significantly lower for enforcements against legal persons than natural persons, where the difference is larger when the country is the same as the one in which the firm's stock trades. The next test for differences in means is to determine whether the firms involved in the enforcements had CARs significantly different from 0. I report results in Table 25.[40] I do not find any statistically significant differences, but this could be a lack of statistical power since I have less than 50 observations. Next, I split the sample based on whether the firms inside trades were more or less profitable after MAR became effective and before the first enforcement and report the results in Table 26.[41] I do not find any statistical differences in the means between these subsamples.

The next set of tests split the sample based on the measures of culture. I report the results for high Asset4 ESG, high social, and high environmental scores in Table 27.[42] I find high Asset4 ESG only has a significant difference for the value-weighted CARs when the country of enforcement is the same as the country in which the firm's stock trades, where high Asset4 ESG CARs are lower since the difference is low to high ESG. I also find the high socially conscious and environmentally conscious firms have less profitable CARs around publications of enforcements regardless of the country in which the enforcement occurred. I report the results for high individualism, high uncertainty avoidance, and high corruption in Table 28.[43] Firms trading in countries with high individualism (uncertainty avoidance) countries tend to have lower (higher) CARs. Again, the coefficient on the difference is opposite the interpretation because it compares low to high for each culture measure. Last, the results show no differences based on corruption.

I next examine the effect of these variables on CARs in a multivariate setting. I first present the correlation matrix of these variables in Table 29.[44] While the correlations are statistically significant, they are relatively small for all variables except the culture variables. Given these results, I use *Inside*, *Legal*, *High Amt*, and *COVID-19* in the regressions and interact, one at a time, the same country (*Ctry*) and each of the culture measures with each of these split variables. This allows me to examine both the effect of the single split variables as well as the added effect of the same coun-

[39] Table 24 in Appendix
[40] Table 25 in Appendix
[41] Table 26 in Appendix
[42] Table 27 in Appendix
[43] Table 28 in Appendix
[44] Table 29 in Appendix

try and culture on the split variables. Table 30 reports the results for the interactions with same country.[45] I find trading in the same country as the enforcement does not significantly contribute to CARs. I find insider enforcement events have significantly lower CARs for equal-weighted CARs for the (0,3) event window and value-weighted CARs for the (0,1) event window. This could mean investors perceive illegal insider trading as more nefarious than market manipulation. For most CARs, enforcements against legal persons have lower CARs, possibly meaning investors perceive firms more negatively when they are directly tied to the infringement. CARs are significantly lower for events carrying a high pecuniary amount, possibly meaning the market believes other firms will be punished for their current actions. And CARs are significantly higher in the post-COVID-19 period, possibly meaning investors are more forgiving for infringements during a time of crisis. When I interact *Ctry* with *Legal* and *COVID-19*, the effect is amplified, indicating markets respond more intensely the closer they are tied to the events. However, I observe the negative effect of inside enforcement and high pecuniary amount is mitigated when in the same country, perhaps showing the market's belief that firms will correct their ways because they are more closely associated with the firms that committed the infringement.

In Tables 31, 32, and 33, I find evidence that firm-level culture contributes to CARs.[46] High Asset4 ESG scores contribute positively to CARs when the event involves a high pecuniary amount and charged against a legal person, possibly meaning investors perceive good culture firms will take notice and not engage in illegal activities in the future. High Asset4 ESG scores also contribute negatively to CARs when trading in the same country as the enforcement, perhaps highlighting investors' perceptions that there are other firms misbehaving. I find high social scores contribute negatively to CARs during the COVID-19 pandemic, perhaps revealing the market's belief that infractions during a time of crisis are especially heinous and should be punished. I also find high social scores contribute positively to CARs when involving a legal person, possibly showing the market's belief that other firms will correct their ways to preserve reputation. High environmental scores contribute negatively to equal-weighted CARs after the first COVID lockdown and when it occurred in the same country, possibly showing investors' reaction to punish firms for taking advantage of a time of crisis to capitalize on their trading or being more closely tied to infringing

[45] Table 30 in Appendix
[46] Tables 31, 32, and 33 in Appendix

firm. I also find high environmental scores contribute positively to CARs when involving a legal person, possibly showing the market's belief that other firms will correct their ways to preserve reputation.

For country culture, I report the results in Tables 34, 35, and 36 for individualism, uncertainty avoidance, and corruption, respectively.[47] I find high individualism amplifies the negative effect of insider dealing enforcement and legal person enforcement, perhaps highlighting investors' belief that firms be punished for being anti-regulation when high individualism leads to a desire for more regulation that supports market efficiency. High individualism also amplifies the positive effect of high pecuniary sanctions and post-COVID-19 period, perhaps showing market's belief that firms will behave in the future to promote regulation that supports market efficiency since they were enforced with a harsher punishment or during a time of crisis. High uncertainty avoidance counters the negative effect from enforcements on legal persons. For the equal-weighted CARs, high uncertainty avoidance amplifies the negative (positive) effect of trading in the same country as the enforcement (enforcements with high pecuniary amounts). These results for uncertainty avoidance support the notion that markets believe firms will correct their ways because it is more probable the uncertain event of getting caught will occur. The most consistent results for high corruption are that it contributes to positively to CARs for enforcements on legal persons and negatively to CARs for enforcements during COVID-19 pandemic, mitigating the effects from these split variables. This could be the market reacting to the belief that firms will behave in the future because the enforcements happened rather than being bribed away.

Firm Value

I now study the effects of culture on firm value after enforcements. I first test whether the first publication of an enforcement of insider dealing leads to differences in firm value after this event. I find no significant results from this test. I find this result reasonable to understand since not every investor is going to be aware of the enforcements, especially if the competent authority's website does not have an English version or a version in a language they can comprehend. Therefore, I use the date of the first publication of the ESMA report on enforcements under MAR.

[47] Tables 34, 35, and 36 in Appendix

The report is published in English, making it reasonably more comprehensible to the majority of European investors. The report aggregates the sanctions imposed by country and details the monetary amounts imposed on sanctions for insider dealing and market manipulation separately. I adjust my regression specification to the following

$$Tobin's\ q = Post\ \ ESMA * Culture + Post\ \ ESMA * Controls + \epsilon$$

where *Post ESMA* is an indicator variable that takes a value of 1 if the date is after the first ESMA report on MAR enforcements is published and the firm's stock trades in the EU. I include my US sample as a control group. I present the results in Table 37.[48] For firm-level culture, the Asset4 ESG score contributes significantly to firm value after the ESMA report is published. It increases firm value by 0.225, which represents a 11% change in the mean. This supports the hypothesis that firms with high ESG have a culture focused on working for the collective good rather than serving individuals at the expense of others, leading to increases in firm value after MAR. It is also possible that low ESG firms contribute to reductions in firm value so their trades are less profitable in the post-report period, fearing that if their transactions are too profitable they will more likely be targeted for investigations because of their firm's poor reputation. I do not find a significant change based on social scores, but high environmental consciousness leads to increases in the firm value. For country-level culture, I find no difference in firm value for all three measures culture.

The last test is to determine whether insider trading profitability contributes to differences in firm value. Since MAR does not directly impact the workings of firms, MAR likely impacts firms through its impact on insider trading behavior. Therefore, I calculate the mean insider trading profitability in the period prior to MAR's announcement and split the sample by the median of these values. I also create an a measure that examines whether the firm's mean insider trading profitability decreased after MAR became effective. I first determine whether the mean for both equal- and value-weighted 1-, 3-, and 6-month BHARs decreased after MAR became effective. If the firm had at least two equal-weighted BHARs that decreased, then the firm was considered less profitable for equal-weighted BHARs. If the firm had at least two value-weighted BHARs that

[48] Table 37 in Appendix

decreased, then the firm was considered less profitable for value-weighted BHARs. I present the results of the profitability effect on firm value in Table 38.[49] I find little to no evidence of differences in firm value based on these profitability measures.

Conclusion

Previous literature suggests the enforcement of a regulation matters more to market participants than the regulation itself (Bhattacharya and Daouk, 2002; Bris, 2005; Fernandes and Ferreira, 2009; Jayaraman, 2012; Chen et al., 2017). Thus, I study the changes around the enforcement of the Market Abuse Regulation in the EU. I study this regulation since it brought significant changes to the EU regulatory landscape for monitoring and punishing market abuse, market manipulation, and illegal insider trading. I am able to study these enforcement events because the regulation required Member States' competent authority's to publish sanctions imposed under MAR to their websites that must remain for five years.

When studying the market reactions of these MAR enforcements, I find the market reacts negatively to these events. This negative reaction is stronger when the enforcement (1) involves illegal insider trading, (2) is against a legal rather than natural person, (3) imposes a larger pecuniary amount, and (4) was conducted prior to COVID-19 pandemic. For most of these characteristics, I find the effect differs based on all measures of firm- and country-level culture.

I also study the effects of enforcement, culture, and insider trading profitability on firm value in the post-enforcement period. I find that the first publication of an enforcement of MAR involving illegal insider trading does not lead to significant changes in firm value. However, not all countries publish the sanctions imposed under MAR. Therefore, I study the effects of the first publication from ESMA on MAR enforcements. This report aggregates by country the number and pecuniary amounts of sanctions imposed from all the Member States in the EU. It further breaks down the sanctions by infringement type, i.e. illegal insider trading or market manipulation. This report makes it easy for market participants to learn of sanctions imposed. I find firm value for high ESG firms and high environmentally conscious firms, but does not differ based on country-level culture

[49] Table 38 in Appendix

or profitability of insider trades. Overall, I find that culture does cause changes in insider trading behavior, market reactions, and firm value.

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Appendix

Table 1: Variable Definitions

This table reports the definitions of variables used throughout the analyses.

Variable	*Definition*
Time Periods	
Ann	Indicator variable that takes a value of 1 if the date is on or after the announcement date of MAR, April 14, 2016, but the before the date MAR became effective, July 3, 2016 and the firm's stock trades in the EU
Eff	Indicator variable that takes a value of 1 if the date is on or after the date MAR became effective, July 3. 2016, but before the date of the first publication of a MAR enforcement involving insider trading in the country in which the firm's stock trades and the firm's stock trades in the EU
Enf	Indicator variable that takes a value of 1 if the date is on or after the date of the first publication of a MAR enforcement involving insider trading in the country in which the firm's stock trades and the firm's stock trades in the EU
Profitability Measures	
i-Month EW BHAR	The i-month equal-weighted buy-and-hold abnormal return
i-Month VW BHAR	The i-month value-weighted buy-and-hold abnormal return
CAR (0,i)	The cumulative abnormal return from event date to event date plus i days
Culture Measures	
High Asset4	Indicator variable that takes a value of 1 if the firm has an above sample median Asset4 ESG score
High Soc	Indicator variable that takes a value of 1 if the firm has an above sample median Asset4 social score
High Env	Indicator variable that takes a value of 1 if the firm has an above sample median Asset4 environmental score
High IDV	Indicator variable that takes a value of 1 if the country in which the firm's stock trades has an above sample median Hofstede individuality score
High UAI	Indicator variable that takes a value of 1 if the country in which the firm's stock trades has an above sample median Hofstede uncertainty avoidance score
High Corrupt	Indicator variable that takes a value of 1 if the country in which the firm's stock trades has a below sample median Transparency International Corruption Perceptions Index corruption score
Enforcement Variables	
COVID-19	Indicator variable that takes a value of 1 if the enforcement event occurred after the first lockdown date in the EU

Continued on next page

Table 1 Continued

Variable	***Definition***
Ctry	Indicator variable that takes a value of 1 if the enforcement event occurred in the same country as the country in which the firm's stock trades
High Amt	Indicator variable that takes a value of 1 if the enforcement event had a monetary amount above the sample median by country
Inside	Indicator variable that takes a value of 1 if the enforcement event involved illegal insider trading
Legal	Indicator variable that takes a value of 1 if the enforcement event involved a legal person

Table 2: Summary Statistics - Country Buy-and-Hold Returns

This table reports summary statistics for the number of firms in each country and the number of observations for each country. My sample includes all firms from the 2iQ insider transaction database that were subject to the Market Abuse Regulation (MAR). I exclude financial firms and utilities (SIC codes between 6000 and 6999 and between 4900 and 4949).

	# of Firms	***# of Observations***
AUSTRIA	39	961
BELGIUM	64	2549
BULGARIA	27	9104
CROATIA	38	433
CZECH REPUBLIC	2	57
DENMARK	73	2010
ESTONIA	12	667
FINLAND	100	15470
FRANCE	449	28827
GERMANY	332	7135
HUNGARY	15	173
ITALY	168	12516
LATVIA	14	124
LUXEMBOURG	6	337
NETHERLANDS	79	2223
POLAND	354	12816
PORTUGAL	5	72
SPAIN	95	8276
SWEDEN	385	17947
UNITED KINGDOM	1099	22902
Total	3356	144599

Table 3: Summary Statistics - Country Cumulative Abnormal Returns

This table reports summary statistics for the number of firms in each country and the number of observations for each country. My sample includes all firms from Datastream that were subject to the Market Abuse Regulation (MAR). I exclude financial firms and utilities (SIC codes between 6000 and 6999 and between 4900 and 4949).

	# of Firms	***# of Observations***
AUSTRIA	47	5229
BELGIUM	99	10160
BULGARIA	112	8751
CROATIA	72	6113
CZECH REPUBLIC	7	200
DENMARK	94	9500
ESTONIA	12	1181
FINLAND	123	12589
FRANCE	622	60241
GERMANY	606	61240
HUNGARY	17	1683
IRELAND	24	2536
ITALY	214	20551
LATVIA	19	920
LUXEMBOURG	11	1154
NETHERLANDS	108	11455
POLAND	446	40857
SPAIN	118	11493
SWEDEN	525	52401
UNITED KINGDOM	1138	98597
Total	4414	416851

Table 4: Summary Statistics - Profitability, Market Reactions, and Firm

This table reports summary statistics for variables of interest. Panel A includes the summary statistics for transaction-level variables, which include 1-, 3-, and 6-month equal-weighted and value-weighted buy-and-hold returns (BHARs). Panel B includes the summary statistics of the cumulated abnormal returns (CARs) with windows (0,1), (0,2) and (0,3) days around the event date. Panel C includes the summary statistics of firm-level variables. *Size* is the log of assets in U.S. dollars. *Leverage* is the ratio of debt to assets. *ROA* is the ratio of net income to assets. *Tobin's q* is the market value of equity plus assets minus book value of equity all divided by assets.

	Mean	Percentile(25^{th})	Median	Percentile(75^{th})	Std.Dev.
Panel A					
1-Month EW BHAR	0.0123	-0.0458	0.0086	0.0644	0.1190
3-Month EW BHAR	0.0193	-0.0947	0.0099	0.1181	0.2356
6-Month EW BHAR	0.0203	-0.1558	0.0131	0.1845	0.3863
1-Month VW BHAR	0.0115	-0.0436	0.0058	0.0626	0.1130
3-Month VW BHAR	0.0198	-0.0816	0.0123	0.1092	0.1958
6-Month VW BHAR	0.0284	-0.1191	0.0213	0.1693	0.2761
Observations	150383				
Panel B					
EW CAR (0,1)	-0.0007	-0.0145	-0.0007	0.0121	0.0364
EW CAR (0,2)	-0.0022	-0.0188	-0.0011	0.0154	0.0480
EW CAR (0,3)	-0.0043	-0.0228	-0.0015	0.0181	0.0612
VW CAR (0,1)	-0.0006	-0.0142	-0.0007	0.0118	0.0357
VW CAR (0,2)	-0.0010	-0.0183	-0.0012	0.0149	0.0441
VW CAR (0,3)	-0.0016	-0.0222	-0.0017	0.0174	0.0513
Observations	321168				
Panel C					
Tobin's Q	1.9831	1.0443	1.3869	2.1052	1.8500
Size	19.3526	17.6765	19.2141	21.0478	2.4636
Leverage	0.2072	0.0571	0.1816	0.3060	0.1793
ROA	-0.0097	-0.0108	0.0332	0.0688	0.1781
Observations	14817				

Table 5: Buy and Hold Returns by Period

This table reports means and medians of buy and hold returns by period. *Pre-Ann* is the period before MAR was announced (before April 16, 2014). *Post-Ann* is the period after MAR was announced and before it was effective (from April 16, 2014 to July 2, 2016). *Post-Eff* is the period after MAR was effective (on or after July 3, 2016) and before the first publication of a MAR enforcement concerning insider trading in the country in which the firm's stock trades. *Post-Enf* is the period after the first publication of a MAR enforcement concerning insider trading in the country in which the firm's stock trades. Panel A includes all transactions. Panel B includes only buy transactions. Panel C includes only sell transactions.

	Pre-Ann Mean	***Post-Ann*** Mean	***Post-Eff*** Mean	***Post-Ins*** Mean
Panel A				
1-Month EW BHAR	0.0101	0.0133	0.0138	0.0081
3-Month EW BHAR	0.0247	0.0239	0.0122	0.0092
6-Month EW BHAR	0.0310	0.0223	0.0088	0.0269
1-Month VW BHAR	0.0054	0.0121	0.0164	0.0145
3-Month VW BHAR	0.0113	0.0209	0.0267	0.0214
6-Month VW BHAR	0.0213	0.0264	0.0349	0.0431
Observations	51762	37159	57075	4387
Panel B				
1-Month EW BHAR	-0.0055	0.0006	0.0039	-0.0011
3-Month EW BHAR	-0.0537	-0.0233	-0.0188	-0.0948
6-Month EW BHAR	-0.1586	-0.0656	-0.0605	-0.3179
1-Month VW BHAR	0.0181	0.0149	0.0226	0.0289
3-Month VW BHAR	0.0298	0.0309	0.0405	0.0387
6-Month VW BHAR	0.0535	0.0523	0.0568	0.0615
Observations	27559	20100	34125	2505
Panel C				
1-Month EW BHAR	0.0249	0.0282	0.0286	0.0204
3-Month EW BHAR	0.0979	0.0795	0.0582	0.1476
6-Month EW BHAR	0.2132	0.1260	0.1118	0.4858
1-Month VW BHAR	-0.0055	0.0089	0.0070	-0.0048
3-Month VW BHAR	-0.0050	0.0092	0.0061	-0.0016
6-Month VW BHAR	-0.0064	-0.0041	0.0023	0.0186
Observations	28590	17059	22950	1882

Table 6: Buy and Hold Returns - Differences in Means

This table reports the difference in means for buy and hold returns by period. Model (1) tests the means using all transactions from the post-announcement period (April 16, 2014 to July 2, 2016) to the pre-announcement period (before April 16, 2014). Model (2) tests the means using all transactions from the post-effective period (on or after July 3, 2016 and before the date of the first publication of a MAR enforcement concerning insider trading in the country in which the firm's stock trades) to the pre-announcement period. Model (3) tests the means using all transactions from the post-enforcement period (on or after the date of the first publication of a MAR enforcement concerning insider trading in the country in which the firm's stock trades) to the pre-announcement period. Models (4), (5), and (6) test the means using buy transactions from the post-announcement, the post-effective, and the post-enforcement period, respectively, to the pre-announcement period. Models (7), (8), and (9) test the means using sell transactions from the post-announcement, the post-effective, and the post-enforcement period, respectively, to the pre-announcement period.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Ann - All	Eff - All	Ins - All	Ann - Buy	Eff - Buy	Ins - Buy	Ann - Sell	Eff - Sell	Ins - Sell
1M EW BHAR	-0.0031***	-0.0037***	0.0020	-0.0065***	-0.0099***	-0.0048	-0.0030**	-0.0034***	0.0048
	(-3.97)	(-5.06)	(1.06)	(-5.81)	(-9.50)	(-1.88)	(-2.74)	(-3.30)	(1.73)
3M EW BHAR	0.0008	0.0125***	0.0155***	-0.0263***	-0.0308***	0.0452***	0.0149***	0.0361***	-0.0533***
	(0.48)	(8.72)	(3.84)	(-12.13)	(-15.88)	(8.89)	(6.74)	(17.82)	(-9.09)
6M EW BHAR	0.0087***	0.0223***	0.0041	-0.0771***	-0.0822***	0.1752***	0.0680***	0.0822***	-0.2919***
	(3.29)	(9.57)	(0.58)	(-21.99)	(-26.97)	(20.17)	(19.74)	(25.91)	(-30.91)
1M VW BHAR	-0.0067***	-0.0110***	-0.0091***	0.0022	-0.0056***	-0.0119***	-0.0144***	-0.0126***	-0.0007
	(-8.90)	(-15.64)	(-5.04)	(1.93)	(-5.53)	(-4.70)	(-14.26)	(-13.08)	(-0.29)
3M VW BHAR	-0.0097***	-0.0154***	-0.0101**	-0.0020	-0.0116***	-0.0098*	-0.0144***	-0.0114***	-0.0036
	(-7.35)	(-12.59)	(-3.20)	(-1.03)	(-6.61)	(-2.19)	(-8.30)	(-6.74)	(-0.81)
6M VW BHAR	-0.0051**	-0.0136***	-0.0218***	0.0004	-0.0041	-0.0088	-0.0041	-0.0104***	-0.0267***
	(-2.75)	(-7.97)	(-4.99)	(0.15)	(-1.70)	(-1.44)	(-1.64)	(-4.40)	(-4.32)
Observations	88921	108837	56149	45154	59179	27559	43767	49658	28590

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7: Summary Statistics on Trading Activity

This table reports statistics of trading activity. Panel A reports statistics by year. Panel B reports statistics by time period. *Pre-Ann* is the time period before the announcement of MAR. *Post-Ann* is the time period after MAR was announced but before it became effecive. *Post-Eff* is the time period after MAR became effective but before the first MAR enforcement in the country in which the firm's stock trades. *Post-Enf* is the time period after the first MAR enforcement in the country in which the firm's stock trades. *Ln(Shares)* is the log of total shares traded. *Trades* is the number of transactions.

	All Transactions		***Buy Transactions***		***Sell Transactions***	
	Ln(Shares)	Trades	Ln(Shares)	Trades	Ln(Shares)	Trades
Panel A						
2011	11.51	6.00	10.56	4.00	11.67	3.00
2012	11.48	5.00	10.34	4.00	11.61	3.00
2013	11.83	6.00	10.31	3.00	12.02	4.00
2014	11.55	6.00	10.39	4.00	11.78	3.00
2015	11.54	5.00	10.34	4.00	11.74	4.00
2016	11.54	5.00	10.66	4.00	11.49	3.00
2017	11.73	6.00	10.63	4.00	11.59	3.00
2018	11.58	6.00	10.71	4.00	11.54	3.00
2019	11.70	5.00	10.75	4.00	11.81	3.00
Total	11.60	5.00	10.52	4.00	11.69	3.00
Observations	16284		13105		10099	
Panel B						
Pre-Ann	12.79	11.00	11.42	7.00	12.86	6.00
Post-Ann	12.34	9.00	11.13	6.00	12.32	4.00
Post-Eff	12.96	12.00	11.86	8.00	12.64	6.00
Post-Enf	10.34	4.00	9.64	3.00	10.93	3.00
Total	12.61	10.00	11.38	7.00	12.56	5.00
Observations	8101		6965		5709	

Table 8: Changes in Trading Activity by Profitability

This table reports the t-tests for differences in the changes in the log of the number of shares trades per firm by profitability. The test compares the top quartile in profitability to the bottom quartile in profitability. Panel A compares the change in the post-announcement period from the pre-announcement period. Panel B compares the change in the post-effective period to the post-announcement period. Panel C compares the change in the post-enforcement period to the post-effective period.

	(1) EW 1M BHAR	(2) EW 3M BHAR3	(3) EW 6M BHAR	(4) VW 1M BHAR	(5) VW 3M BHAR	(6) VW 6M BHAR
Panel A						
Ann Change	0.0167	0.1637	0.2880*	-0.2074	-0.2070	-0.0170
	(0.13)	(1.27)	(2.06)	(-1.66)	(-1.63)	(-0.13)
Observations	2088	1894	1791	2111	1972	1908
Panel B						
Eff Change	0.0100	0.1413	0.0094	0.0994	0.0826	-0.0195
	(0.08)	(1.11)	(0.07)	(0.86)	(0.68)	(-0.15)
Observations	2343	2138	1996	2377	2184	2092
Panel C						
Enf Change	0.0748	0.0927	0.1409	0.0865	0.1435	-0.1504
	(0.26)	(0.27)	(0.43)	(0.28)	(0.43)	(-0.41)
Observations	345	295	275	334	287	236

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 9: CARs - Announcement, Effective, Enforcement

This table reports t-test results on whether the CARs surrounding the announcement, implementation, and enforcemment are significantly different from 0. EW (VW) CAR $(0,i)$ represents the equal- (value-) weighted CAR starting on the event date and ending i days after the event date. *Announcement* is the day MAR was announced, April 16, 2014. *Effective* is the day MAR became effective, July 3, 2016. *Enforcement* is the date of the first publication of a MAR enforcement concerning insider trading in the country in which the firm's stock trades.

	(1)	(2)	(3)
	Announcement	***Effective***	***Enforcement***
EW CAR (0,1)	0.0020***	0.0000	-0.0022*
	(3.58)	(0.06)	(-2.32)
EW CAR (0,2)	0.0026***	-0.0013	-0.0014
	(3.55)	(-1.59)	(-1.20)
EW CAR (0,3)	0.0020*	-0.0006	-0.0109***
	(2.37)	(-0.62)	(-6.46)
VW CAR (0,1)	-0.0019***	-0.0013*	-0.0041***
	(-3.49)	(-2.05)	(-4.41)
VW CAR (0,2)	-0.0033***	-0.0044***	-0.0010
	(-4.59)	(-5.34)	(-0.85)
VW CAR (0,3)	-0.0027**	-0.0039***	0.0025
	(-3.26)	(-4.32)	(1.69)
Observations	8066	7990	2522

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 10: BHARs by Culture and Period

This table reports results from difference in means tests based on culture and time period. Panel A, B, and C report the differences during the post-announcement, post-effective, and post-enforcement periods, respectively. Each result tests the difference between low and high values of the culture variable.

	(1) Asset4 ESG	(2) Soc	(3) Env	(4) IDV	(5) UAI	(6) Corrupt
Panel A						
1M EW BHAR	0.0018	0.0096***	0.0046**	0.0066***	-0.0017	-0.0038**
	(1.05)	(5.59)	(2.73)	(5.52)	(-1.50)	(-2.59)
3M EW BHAR	-0.0294***	-0.0101**	-0.0198***	0.0271***	0.0032	-0.0026
	(-7.73)	(-2.63)	(-5.33)	(11.62)	(1.44)	(-0.92)
6M EW BHAR	-0.0206***	-0.0135*	-0.0357***	0.0253***	-0.0022	-0.0290***
	(-3.81)	(-2.48)	(-6.79)	(7.01)	(-0.63)	(-6.52)
1M VW BHAR	0.0038*	0.0074***	0.0026	0.0002	-0.0013	-0.0047***
	(2.16)	(4.26)	(1.51)	(0.20)	(-1.21)	(-3.35)
3M VW BHAR	0.0037	0.0108***	0.0019	0.0042*	0.0052**	-0.0002
	(1.16)	(3.37)	(0.60)	(2.20)	(2.80)	(-0.07)
6M VW BHAR	0.0237***	0.0084	0.0002	-0.0078**	0.0007	-0.0130***
	(5.07)	(1.79)	(0.04)	(-2.77)	(0.26)	(-3.76)
Observations	8316	8316	8316	37159	37159	37159
Panel B						
1M EW BHAR	-0.0084***	0.0112***	-0.0057***	-0.0122***	-0.0024*	-0.0122***
	(-4.84)	(6.49)	(-3.32)	(-10.12)	(-2.30)	(-9.89)
3M EW BHAR	-0.0127***	0.0106**	-0.0041	-0.0198***	-0.0045*	-0.0259***
	(-3.95)	(3.28)	(-1.28)	(-8.97)	(-2.40)	(-11.47)
6M EW BHAR	-0.0182***	0.0280***	-0.0146**	-0.0282***	-0.0204***	-0.0402***
	(-3.85)	(5.94)	(-3.11)	(-8.32)	(-7.06)	(-11.60)
1M VW BHAR	-0.0018	0.0160***	0.0037*	-0.0086***	0.0028**	0.0037**
	(-1.10)	(9.86)	(2.26)	(-7.52)	(2.90)	(3.21)
3M VW BHAR	-0.0119***	0.0041	0.0005	-0.0175***	0.0040*	0.0031
	(-4.37)	(1.51)	(0.20)	(-8.91)	(2.36)	(1.54)
6M VW BHAR	-0.0275***	0.0065	-0.0202***	-0.0239***	-0.0036	-0.0000
	(-7.16)	(1.69)	(-5.31)	(-8.64)	(-1.53)	(-0.00)
Observations	11460	11460	11460	57075	57075	57075
Panel C						
1M EW BHAR	0.0363***	0.0302*	0.0394***	0.0268*	0.0081	0.0063
	(4.53)	(2.09)	(4.43)	(2.01)	(1.83)	(1.42)
3M EW BHAR	0.1428***	0.1357***	0.1208***	0.0057	-0.0213	-0.0222
	(6.73)	(3.52)	(5.08)	(0.16)	(-1.84)	(-1.91)
6M EW BHAR	0.5627***	0.3156***	0.1867***	0.0039	-0.0481	-0.0507*
	(12.08)	(3.56)	(3.39)	(0.05)	(-1.95)	(-2.06)

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Table 10 Continued

	(1) Asset4	(2) Soc	(3) Env	(4) IDV	(5) UAI	(6) Corrupt
1M VW BHAR	-0.0140**	0.0169	-0.0258***	0.0059	0.0152***	0.0150***
	(-2.82)	(1.90)	(-4.73)	(0.52)	(4.03)	(3.96)
3M VW BHAR	-0.0258**	0.0553***	-0.0522***	-0.0118	-0.0036	-0.0040
	(-2.98)	(3.58)	(-5.49)	(-0.64)	(-0.59)	(-0.66)
6M VW BHAR	-0.0291**	0.0761***	-0.0786***	-0.0213	-0.0215*	-0.0232**
	(-2.63)	(3.88)	(-6.53)	(-0.82)	(-2.49)	(-2.68)
Observations	975	975	975	4387	4387	4387

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 11: BHARs by Common and Civil Law

This table reports results summary statistics of buy-and-hold-returns by common and civil law. Panel A (B) uses observations from common (civil) law countries. *Pre-Ann* is the time period before the announcement of MAR. *Post-Ann* is the time period after MAR was announced but before it became effecive. *Post-Eff* is the time period after MAR became effective but before the first MAR enforcement in the country in which the firm's stock trades.

	Pre-Ann		Post-Ann		Post-Eff	
	Mean	Median	Mean	Median	Mean	Median
Panel A						
1M EW BHAR	0.0124	0.0054	0.0114	0.0080	0.0209	0.0133
3M EW BHAR	0.0179	0.0070	0.0154	0.0132	0.0178	0.0095
6M EW BHAR	0.0246	0.0129	0.0139	0.0092	0.0163	0.0048
1M VW BHAR	0.0112	0.0019	0.0108	0.0047	0.0219	0.0113
3M VW BHAR	0.0136	0.0016	0.0169	0.0070	0.0227	0.0103
6M VW BHAR	0.0102	-0.0060	0.0188	0.0163	0.0250	0.0133
Observations	8357		5363		9599	
Panel B						
1M EW BHAR	0.0110	0.0070	0.0139	0.0124	0.0181	0.0165
3M EW BHAR	0.0213	0.0092	0.0222	0.0189	0.0183	0.0072
6M EW BHAR	0.0299	0.0144	0.0302	0.0340	0.0319	0.0261
1M VW BHAR	0.0034	0.0000	0.0119	0.0072	0.0165	0.0094
3M VW BHAR	-0.0014	-0.0098	0.0167	0.0091	0.0282	0.0241
6M VW BHAR	0.0054	-0.0102	0.0284	0.0299	0.0441	0.0384
Observations	17851		12957		21429	

Table 12: BHARs by Common or Civil Law and Period

This table reports results from difference in means of insider trading profitability tests based on common or civil law. *Post-Ann* compares the means of common to civil law during the post-announcement period, the time period after MAR was announced but before it became effecive. *Post-Eff* compares the means of common to civil law during the post-effective period, the time period after MAR became effective but before the first MAR enforcement in the country in which the firm's stock trades.

	(1)	(2)
	Post-Ann	Post-Eff
1-Month EW BHAR	-0.0025	0.0028*
	(-1.50)	(2.09)
3-Month EW BHAR	-0.0068*	-0.0005
	(-2.39)	(-0.21)
6-Month EW BHAR	-0.0163***	-0.0157***
	(-3.78)	(-4.29)
1-Month VW BHAR	-0.0012	0.0054***
	(-0.69)	(4.04)
3-Month VW BHAR	0.0001	-0.0055*
	(0.05)	(-2.41)
6-Month VW BHAR	-0.0096*	-0.0191***
	(-2.33)	(-5.90)
Observations	18320	31028

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 13: BHARs and ESG

This table reports results from OLS regressions relating buy and hold returns and Asset4 ESG scores. The dependent variables are 1-month, 3-month, and 6-month buy and hold returns. Indepedent variables are defined in Table 1. Firm-level control variables are the 3-year average before MAR was announced and include *Size*, *ROA*, and *Leverage*. Industry fixed effects are based on 2-digit SIC industries. Models (1), (4), and (7) use both buy and sell transactions. Models (2), (5), and (8) use only buy transactions. Models (3), (6), and (9) use only sell transactions. Panel A (B) reports results using equal-weighted (value-weighted) buy and hold returns. *t*-statistics in parentheses are calculated from heteroscedasticity-robust standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	1-Month BHAR			3-Month BHAR			6-Month BHAR		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A									
Ann	-0.009	0.116	-0.034	0.182	0.216	0.220	-0.103	-0.072	0.149
	(-0.16)	(1.52)	(-0.48)	(1.24)	(1.23)	(1.36)	(-0.44)	(-0.21)	(0.60)
Ann×High Asset4	-0.002	0.003	-0.008	0.025	0.019	0.033	-0.030	-0.015	0.001
	(-0.23)	(0.38)	(-0.79)	(1.18)	(0.78)	(1.40)	(-0.89)	(-0.31)	(0.03)
Eff	0.005	0.062	-0.030	0.106	-0.102	0.237	-0.328	-0.514	0.059
	(0.08)	(0.71)	(-0.45)	(0.77)	(-0.55)	(1.55)	(-1.57)	(-1.61)	(0.23)
Eff×High Asset4	0.007	0.015	-0.016	0.021	0.010	-0.008	-0.010	-0.014	-0.021
	(0.90)	(1.30)	(-1.64)	(1.07)	(0.32)	(-0.33)	(-0.29)	(-0.21)	(-0.44)
Enf	-0.244	-0.262	-0.179	-0.173	0.104	-0.178	-2.096	-0.289	-2.955**
	(-1.60)	(-0.91)	(-1.01)	(-0.26)	(0.14)	(-0.32)	(-1.50)	(-0.26)	(-2.00)
Enf×High Asset4	-0.041*	-0.077*	0.023	-0.068	-0.139	0.195***	-0.589***	-0.272*	-0.120
	(-1.94)	(-1.69)	(1.14)	(-0.88)	(-1.41)	(3.29)	(-3.25)	(-1.71)	(-0.81)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Ann	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Eff	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Enf	✓	✓	✓	✓	✓	✓	✓	✓	✓

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Table 13 Continued

	1-Month BHAR			3-Month BHAR			6-Month BHAR		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Observations	123,147	23,640	99,422	123,147	23,640	99,422	123,147	23,640	99,422
Adjusted R^2	0.126	0.295	0.144	0.183	0.336	0.234	0.247	0.439	0.340
Panel B									
Ann	0.038	0.095	-0.021	0.096	0.294*	-0.091	-0.117	0.174	-0.222
	(0.67)	(1.08)	(-0.30)	(0.86)	(1.84)	(-0.64)	(-0.61)	(0.64)	(-0.91)
Ann×High Asset4	-0.001	0.020**	-0.023**	0.001	0.053***	-0.036*	-0.037	0.091***	-0.095**
	(-0.14)	(2.44)	(-2.18)	(0.07)	(2.94)	(-1.87)	(-1.33)	(2.72)	(-2.56)
Eff	0.090	0.105	-0.000	0.128	-0.039	0.106	-0.107	-0.082	-0.074
	(1.55)	(1.14)	(-0.00)	(1.11)	(-0.24)	(0.78)	(-0.56)	(-0.29)	(-0.32)
Eff×High Asset4	0.003	0.023**	-0.025***	-0.002	0.028	-0.046**	-0.021	0.067	-0.069*
	(0.37)	(2.21)	(-2.97)	(-0.12)	(1.26)	(-2.28)	(-0.68)	(1.61)	(-1.86)
Enf	0.076	0.057	-0.043	0.375	0.504	0.088	0.507	-0.095	0.978**
	(0.55)	(0.29)	(-0.27)	(1.38)	(1.18)	(0.29)	(1.27)	(-0.16)	(2.01)
Enf×High Asset4	-0.012	0.006	-0.025	0.014	0.054	0.005	-0.042	0.012	-0.026
	(-0.60)	(0.15)	(-0.92)	(0.54)	(0.75)	(0.17)	(-0.79)	(0.14)	(-0.36)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Ann	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Eff	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Enf	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	123,147	23,640	99,422	123,147	23,640	99,422	123,147	23,640	99,422
Adjusted R^2	0.111	0.278	0.128	0.183	0.311	0.237	0.252	0.408	0.329

Table 14: BHARs and Social Scores

This table reports results from OLS regressions relating buy and hold returns and Asset4 social scores. The dependent variables are 1-month, 3-month, and 6-month buy and hold returns. Indepedent variables are defined in Table 1. Firm-level control variables are the 3-year average before MAR was announced and include *Size*, *ROA*, and *Leverage*. Industry fixed effects are based on 2-digit SIC industries. Models (1), (4), and (7) use both buy and sell transactions. Models (2), (5), and (8) use only buy transactions. Models (3), (6), and (9) use only sell transactions. Panel A (B) reports the results using equal-weighted (value-weighted) buy and hold returns. *t*-statistics in parentheses are calculated from heteroscedasticity-robust standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	1-Month BHAR			3-Month BHAR			6-Month BHAR		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A									
Ann	-0.046	0.089	-0.074	0.108	0.128	0.104	-0.048	-0.101	0.215
	(-0.81)	(1.14)	(-1.09)	(0.69)	(0.69)	(0.58)	(-0.20)	(-0.28)	(0.86)
Ann×High Soc	-0.014*	-0.004	-0.020**	-0.006	-0.008	-0.017	-0.008	-0.021	0.018
	(-1.92)	(-0.43)	(-2.29)	(-0.31)	(-0.31)	(-0.78)	(-0.25)	(-0.46)	(0.52)
Eff	-0.050	-0.033	-0.068	0.029	-0.332	0.215	-0.416*	-0.750**	0.001
	(-0.81)	(-0.36)	(-0.99)	(0.20)	(-1.50)	(1.37)	(-1.88)	(-2.04)	(0.00)
Eff×High Soc	-0.010	-0.011	-0.027***	-0.007	-0.053*	-0.018	-0.030	-0.077	-0.040
	(-1.26)	(-0.91)	(-2.87)	(-0.39)	(-1.68)	(-0.83)	(-0.91)	(-1.26)	(-1.00)
Enf	-0.174	-0.344	-0.313*	-0.099	-0.012	-1.065*	-0.381	-0.624	-2.883***
	(-1.12)	(-1.24)	(-1.71)	(-0.19)	(-0.02)	(-1.92)	(-0.31)	(-0.60)	(-2.90)
Enf×High Soc	-0.063*	-0.120**	-0.017	-0.161**	-0.206*	-0.109	-0.333	-0.433***	-0.372
	(-1.82)	(-2.38)	(-0.49)	(-2.19)	(-1.75)	(-1.26)	(-1.49)	(-2.74)	(-1.25)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Ann	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Eff	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Enf	✓	✓	✓	✓	✓	✓	✓	✓	✓

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Table 14 Continued

	1-Month BHAR			3-Month BHAR			6-Month BHAR		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Observations	123,147	23,640	99,422	123,147	23,640	99,422	123,147	23,640	99,422
Adjusted R^2	0.126	0.295	0.144	0.183	0.336	0.234	0.244	0.440	0.340
Panel B									
Ann	0.021	0.063	-0.022	0.106	0.220	-0.036	0.027	0.032	0.056
	(0.36)	(0.69)	(-0.29)	(0.97)	(1.38)	(-0.28)	(0.16)	(0.11)	(0.25)
Ann×High Soc	-0.007	0.011	-0.019**	0.004	0.030	-0.010	0.018	0.048	0.022
	(-0.98)	(1.17)	(-1.97)	(0.31)	(1.51)	(-0.48)	(0.70)	(1.33)	(0.63)
Eff	0.066	0.003	0.016	0.130	-0.249	0.198	-0.137	-0.495	0.082
	(1.11)	(0.03)	(0.23)	(1.09)	(-1.47)	(1.37)	(-0.67)	(-1.56)	(0.34)
Eff×High Soc	-0.005	-0.005	-0.016	-0.002	-0.029	-0.010	-0.024	-0.045	-0.005
	(-0.61)	(-0.48)	(-1.61)	(-0.11)	(-1.29)	(-0.43)	(-0.84)	(-1.00)	(-0.14)
Enf	0.083	-0.120	0.006	0.274	0.221	-0.026	0.637*	-0.332	1.036**
	(0.72)	(-0.60)	(0.04)	(1.32)	(0.52)	(-0.12)	(1.68)	(-0.56)	(2.29)
Enf×High Soc	-0.030	-0.057	-0.013	-0.044	-0.041	-0.042	0.002	-0.081	0.039
	(-1.06)	(-1.45)	(-0.31)	(-0.72)	(-0.48)	(-0.52)	(0.02)	(-0.85)	(0.29)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Ann	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Eff	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Enf	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	123,147	23,640	99,422	123,147	23,640	99,422	123,147	23,640	99,422
Adjusted R^2	0.111	0.278	0.127	0.183	0.311	0.236	0.252	0.408	0.328

Table 15: BHARs and Environmental Scores

This table reports results from OLS regressions relating buy and hold returns and Asset4 environmental scores. The dependent variables are 1-month, 3-month, and 6-month buy and hold returns. Indepedent variables are defined in Table 1. Firm-level control variables are the 3-year average before MAR was announced and include *Size*, *ROA*, and *Leverage*. Industry fixed effects are based on 2-digit SIC industries. Models (1), (4), and (7) use both buy and sell transactions. Models (2), (5), and (8) use only buy transactions. Models (3), (6), and (9) use only sell transactions. Panel A (B) reports results using equal-weighted (value-weighted) buy and hold returns. *t*-statistics in parentheses are calculated from heteroscedasticity-robust standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	1-Month BHAR			3-Month BHAR			6-Month BHAR		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A									
Ann	-0.043	0.107	-0.046	0.087	0.088	0.208	-0.111	-0.083	0.205
	(-0.74)	(1.35)	(-0.66)	(0.56)	(0.51)	(1.23)	(-0.45)	(-0.24)	(0.78)
Ann×High Env	-0.011	0.001	-0.010	-0.010	-0.021	0.022	-0.022	-0.019	0.013
	(-1.52)	(0.14)	(-0.98)	(-0.46)	(-0.95)	(0.91)	(-0.68)	(-0.40)	(0.33)
Eff	-0.051	-0.005	-0.025	0.040	-0.153	0.292*	-0.425*	-0.462	0.076
	(-0.87)	(-0.06)	(-0.37)	(0.29)	(-0.80)	(1.89)	(-1.93)	(-1.43)	(0.29)
Eff×High Env	-0.009	-0.004	-0.012	-0.000	-0.005	0.008	-0.028	0.000	-0.027
	(-1.18)	(-0.33)	(-1.28)	(-0.01)	(-0.16)	(0.35)	(-0.82)	(0.01)	(-0.63)
Enf	-0.235	-0.099	-0.374*	-0.143	0.507	-0.947*	-0.305	0.620	-1.788
	(-1.13)	(-0.29)	(-1.81)	(-0.20)	(0.56)	(-1.69)	(-0.17)	(0.50)	(-1.34)
Enf×High Env	-0.059**	-0.056	-0.030	-0.103	-0.030	-0.008	-0.134	0.001	0.250
	(-2.32)	(-1.26)	(-1.44)	(-1.39)	(-0.37)	(-0.11)	(-0.64)	(0.01)	(1.44)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Ann	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Eff	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Enf	✓	✓	✓	✓	✓	✓	✓	✓	✓

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Table 15 Continued

	1-Month BHAR			3-Month BHAR			6-Month BHAR		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Observations	123,147	23,640	99,422	123,147	23,640	99,422	123,147	23,640	99,422
Adjusted R^2	0.126	0.294	0.144	0.183	0.335	0.234	0.244	0.438	0.340
Panel B									
Ann	0.022	0.101	-0.020	0.083	0.218	-0.019	0.056	0.218	-0.020
	(0.39)	(1.12)	(-0.28)	(0.72)	(1.38)	(-0.15)	(0.32)	(0.82)	(-0.09)
Ann×High Env	-0.006	0.020**	-0.017*	-0.004	0.024	-0.004	0.028	0.090***	-0.003
	(-0.80)	(2.54)	(-1.66)	(-0.28)	(1.24)	(-0.18)	(1.03)	(2.81)	(-0.09)
Eff	0.057	0.050	0.021	0.112	-0.053	0.215	-0.065	0.020	0.048
	(0.97)	(0.54)	(0.30)	(0.96)	(-0.32)	(1.62)	(-0.34)	(0.07)	(0.21)
Eff×High Env	-0.007	0.006	-0.013	-0.007	0.021	-0.004	-0.003	0.088**	-0.016
	(-0.99)	(0.59)	(-1.63)	(-0.47)	(0.91)	(-0.17)	(-0.08)	(1.99)	(-0.43)
Enf	0.073	0.072	-0.100	0.369	0.527	0.002	0.651*	0.384	0.843*
	(0.45)	(0.27)	(-0.56)	(1.15)	(1.02)	(0.01)	(1.66)	(0.75)	(1.73)
Enf×High Env	-0.019	0.006	-0.041*	0.022	0.093	-0.006	0.000	0.217**	-0.051
	(-0.96)	(0.20)	(-1.89)	(0.67)	(1.60)	(-0.16)	(0.00)	(2.40)	(-0.72)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Ann	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Eff	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Enf	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	123,147	23,640	99,422	123,147	23,640	99,422	123,147	23,640	99,422
Adjusted R^2	0.111	0.278	0.127	0.183	0.310	0.236	0.252	0.408	0.328

Table 16: BHARs and Individuality

This table reports results from OLS regressions relating buy and hold returns and Hofstede individuality scores. The dependent variables are 1-month, 3-month, and 6-month buy and hold returns. Indepedent variables are defined in Table 1. Firm-level control variables are the 3-year average before MAR was announced and include *Size*, *ROA*, and *Leverage*. Industry fixed effects are based on 2-digit SIC industries. Models (1), (4), and (7) use both buy and sell transactions. Models (2), (5), and (8) use only buy transactions. Models (3), (6), and (9) use only sell transactions. Panel A (B) reports results using equal-weighted (value-weighted) buy and hold returns. *t*-statistics in parentheses are calculated from heteroscedasticity-robust standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	1-Month BHAR			3-Month BHAR			6-Month BHAR		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A									
Ann	-0.017	-0.032	0.036	-0.027	-0.107	0.153	0.008	-0.166	0.259
	(-0.75)	(-0.93)	(1.01)	(-0.45)	(-1.35)	(1.56)	(0.07)	(-1.25)	(1.37)
Ann×High IDV	-0.012	-0.008	-0.026**	-0.016	-0.019	-0.045**	-0.021	-0.066*	-0.051
	(-1.51)	(-0.90)	(-2.31)	(-0.64)	(-0.98)	(-1.99)	(-0.50)	(-1.71)	(-1.28)
Eff	-0.017	-0.026	0.022	-0.004	-0.051	0.147	-0.021	-0.122	0.186
	(-0.72)	(-0.75)	(0.71)	(-0.07)	(-0.66)	(1.54)	(-0.19)	(-0.97)	(1.02)
Eff×High IDV	-0.001	-0.002	-0.007	0.004	-0.024	0.004	0.004	-0.071*	0.007
	(-0.08)	(-0.23)	(-0.75)	(0.20)	(-1.22)	(0.13)	(0.12)	(-1.83)	(0.14)
Enf	-0.034	0.104	-0.246***	-0.098	0.155	-0.301	-0.812*	-0.245	-0.985
	(-0.50)	(1.18)	(-2.93)	(-0.53)	(0.73)	(-1.36)	(-1.72)	(-0.68)	(-1.58)
Enf×High IDV	-0.090***	-0.116***	-0.066*	-0.120***	-0.218***	0.010	-0.251***	-0.564***	0.227*
	(-3.23)	(-3.23)	(-1.76)	(-3.10)	(-4.35)	(0.18)	(-2.89)	(-6.00)	(1.82)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Ann	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Eff	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Enf	✓	✓	✓	✓	✓	✓	✓	✓	✓

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Table 16 Continued

	1-Month BHAR			3-Month BHAR			6-Month BHAR		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Observations	479,937	151,737	327,485	479,937	151,737	327,485	479,937	151,737	327,485
Adjusted R^2	0.130	0.225	0.161	0.177	0.286	0.263	0.226	0.377	0.346
Panel B									
Ann	-0.017	-0.034	0.073**	-0.020	-0.038	0.159**	-0.040	0.032	0.125
	(-0.73)	(-1.02)	(2.30)	(-0.44)	(-0.55)	(2.50)	(-0.54)	(0.29)	(1.14)
Ann×High IDV	-0.008	0.002	-0.017	-0.011	-0.013	0.003	0.003	-0.019	0.024
	(-1.15)	(0.19)	(-1.54)	(-0.93)	(-0.69)	(0.17)	(0.17)	(-0.61)	(0.82)
Eff	-0.013	-0.037	0.059**	-0.044	-0.093	0.165***	-0.068	-0.051	0.193**
	(-0.54)	(-1.06)	(2.01)	(-0.94)	(-1.32)	(2.72)	(-0.89)	(-0.44)	(2.00)
Eff×High IDV	0.003	0.009	-0.009	0.013	-0.002	0.015	0.044**	0.015	0.017
	(0.41)	(0.96)	(-1.02)	(0.99)	(-0.14)	(0.77)	(1.97)	(0.48)	(0.56)
Enf	-0.081	-0.056	-0.171**	-0.051	-0.085	0.033	0.009	0.156	-0.126
	(-1.38)	(-0.71)	(-2.46)	(-0.54)	(-0.52)	(0.18)	(0.06)	(0.72)	(-0.56)
Enf×High IDV	-0.057**	-0.077**	-0.054	-0.059*	-0.101	-0.001	-0.087*	-0.107	-0.030
	(-2.16)	(-2.15)	(-1.56)	(-1.80)	(-1.56)	(-0.02)	(-1.75)	(-1.54)	(-0.42)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Ann	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Eff	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Enf	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	479,937	151,737	327,485	479,937	151,737	327,485	479,937	151,737	327,485
Adjusted R^2	0.132	0.224	0.144	0.184	0.281	0.246	0.239	0.369	0.337

Table 17: BHARs and Uncertainty Avoidance

This table reports results from OLS regressions relating buy and hold returns and Hofstede uncertainty avoidance scores. The dependent variables are 1-month, 3-month, and 6-month buy and hold returns. Indepedent variables are defined in Table 1. Firm-level control variables are the 3-year average before MAR was announced and include *Size*, *ROA*, and *Leverage*. Industry fixed effects are based on 2-digit SIC industries. Models (1), (4), and (7) use both buy and sell transactions. Models (2), (5), and (8) use only buy transactions. Models (3), (6), and (9) use only sell transactions. Panel A (B) reports results using equal-weighted (value-weighted) buy and hold returns. *t*-statistics in parentheses are calculated from heteroscedasticity-robust standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	1-Month BHAR			3-Month BHAR			6-Month BHAR		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A									
Ann	-0.017	-0.044	0.043	-0.024	-0.148*	0.191**	-0.005	-0.306**	0.328*
	(-0.81)	(-1.36)	(1.31)	(-0.43)	(-1.92)	(2.08)	(-0.05)	(-2.35)	(1.88)
Ann×High UAI	0.000	0.011	-0.001	-0.004	0.036**	-0.030	0.016	0.124***	-0.062*
	(0.07)	(1.51)	(-0.14)	(-0.21)	(2.23)	(-1.47)	(0.50)	(3.94)	(-1.83)
Eff	-0.009	-0.022	0.033	0.007	-0.067	0.178*	-0.015	-0.202*	0.253
	(-0.39)	(-0.66)	(1.05)	(0.12)	(-0.89)	(1.89)	(-0.14)	(-1.65)	(1.44)
Eff×High UAI	-0.010*	-0.005	-0.003	-0.012	0.012	-0.013	-0.005	0.069**	-0.047
	(-1.84)	(-0.69)	(-0.35)	(-0.76)	(0.74)	(-0.67)	(-0.18)	(2.11)	(-1.42)
Enf	-0.088	0.039	-0.270***	-0.193	0.095	-0.286	-1.029**	-0.343	-0.870
	(-1.36)	(0.48)	(-3.12)	(-0.98)	(0.50)	(-1.18)	(-2.10)	(-1.06)	(-1.41)
Enf×High UAI	-0.036***	-0.046***	-0.026	-0.007	-0.156***	0.161***	0.016	-0.470***	0.474***
	(-3.01)	(-2.84)	(-1.29)	(-0.18)	(-3.89)	(3.07)	(0.20)	(-6.25)	(4.83)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Ann	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Eff	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Enf	✓	✓	✓	✓	✓	✓	✓	✓	✓

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Table 17 Continued

	1-Month BHAR			3-Month BHAR			6-Month BHAR		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Observations	479,937	151,737	327,485	479,937	151,737	327,485	479,937	151,737	327,485
Adjusted R^2	0.130	0.225	0.161	0.177	0.287	0.263	0.226	0.381	0.347
Panel B									
Ann	-0.023	-0.023	0.058*	-0.031	-0.021	0.137**	-0.059	0.060	0.083
	(-1.07)	(-0.74)	(1.88)	(-0.71)	(-0.32)	(2.25)	(-0.81)	(0.56)	(0.79)
Ann×High UAI	0.008	-0.009	0.024***	0.013	-0.017	0.025*	0.020	-0.026	0.043*
	(1.45)	(-1.34)	(2.97)	(1.30)	(-1.13)	(1.71)	(1.19)	(-1.07)	(1.78)
Eff	-0.009	-0.023	0.052*	-0.047	-0.089	0.147**	-0.073	-0.032	0.157
	(-0.39)	(-0.67)	(1.77)	(-1.02)	(-1.29)	(2.43)	(-0.96)	(-0.27)	(1.63)
Eff×High UAI	-0.005	-0.012	0.015**	0.006	-0.002	0.024*	0.005	-0.012	0.037*
	(-0.96)	(-1.61)	(2.38)	(0.54)	(-0.12)	(1.82)	(0.30)	(-0.45)	(1.69)
Enf	-0.118**	-0.112	-0.193***	-0.114	-0.155	0.016	-0.103	0.074	-0.169
	(-2.13)	(-1.55)	(-2.73)	(-1.18)	(-0.91)	(0.09)	(-0.69)	(0.32)	(-0.71)
Enf×High UAI	-0.021*	-0.020	-0.021	0.014	-0.024	0.075**	0.022	-0.020	0.041
	(-1.94)	(-1.39)	(-1.11)	(0.62)	(-0.76)	(2.12)	(0.62)	(-0.41)	(0.69)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Ann	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Eff	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Enf	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	479,937	151,737	327,485	479,937	151,737	327,485	479,937	151,737	327,485
Adjusted R^2	0.132	0.224	0.144	0.184	0.281	0.246	0.239	0.368	0.337

Table 18: BHARs and Corruption

This table reports results from OLS regressions relating buy and hold returns and corruption scores from Transparency International's Corruption Perceptions Index (CPI). The dependent variables are 1-month, 3-month, and 6-month buy and hold returns. Indepedent variables are defined in Table 1. Firm-level control variables are the 3-year average before MAR was announced and include *Size*, *ROA*, and *Leverage*. Industry fixed effects are based on 2-digit SIC industries. Models (1), (4), and (7) use both buy and sell transactions. Models (2), (5), and (8) use only buy transactions. Models (3), (6), and (9) use only sell transactions. Panel A (B) reports results using equal-weighted (value-weighted) buy and hold returns. *t*-statistics in parentheses are calculated from heteroscedasticity-robust standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	1-Month BHAR			3-Month BHAR			6-Month BHAR		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A									
Ann	-0.017	-0.032	0.035	-0.028	-0.109	0.142	0.014	-0.169	0.233
	(-0.76)	(-0.94)	(0.99)	(-0.46)	(-1.35)	(1.43)	(0.12)	(-1.25)	(1.21)
Ann×High Corrupt	-0.002	0.009	-0.019***	-0.003	0.037	-0.065***	0.019	0.109**	-0.110***
	(-0.45)	(1.08)	(-2.58)	(-0.18)	(1.61)	(-3.75)	(0.64)	(2.50)	(-3.92)
Eff	-0.016	-0.026	0.024	0.005	-0.052	0.149	-0.011	-0.127	0.169
	(-0.65)	(-0.75)	(0.75)	(0.08)	(-0.68)	(1.52)	(-0.10)	(-1.03)	(0.89)
Eff×High Corrupt	-0.001	0.006	-0.012*	0.017	0.031	-0.027	0.018	0.076*	-0.097***
	(-0.10)	(0.53)	(-1.75)	(1.22)	(1.35)	(-1.51)	(0.66)	(1.71)	(-3.05)
Enf	-0.092	0.030	-0.282***	-0.190	0.096	-0.323	-1.021**	-0.311	-0.977
	(-1.42)	(0.36)	(-3.25)	(-0.96)	(0.50)	(-1.33)	(-2.08)	(-0.97)	(-1.59)
Enf×High Corrupt	-0.029**	-0.034**	-0.035*	0.010	-0.142***	0.144***	0.036	-0.461***	0.435***
	(-2.46)	(-2.07)	(-1.77)	(0.25)	(-3.37)	(2.86)	(0.45)	(-6.06)	(4.53)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Ann	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Eff	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Enf	✓	✓	✓	✓	✓	✓	✓	✓	✓

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Table 18 Continued

	1-Month BHAR			3-Month BHAR			6-Month BHAR		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Observations	479,937	151,737	327,485	479,937	151,737	327,485	479,937	151,737	327,485
Adjusted R^2	0.130	0.225	0.161	0.177	0.287	0.263	0.226	0.380	0.347
Panel B									
Ann	-0.016	-0.033	0.077**	-0.019	-0.038	0.155**	-0.036	0.039	0.121
	(-0.68)	(-1.00)	(2.28)	(-0.43)	(-0.54)	(2.46)	(-0.48)	(0.34)	(1.10)
Ann×High Corrupt	0.003	0.007	-0.003	0.003	0.009	-0.010	0.023	0.031	0.003
	(0.50)	(0.83)	(-0.39)	(0.25)	(0.37)	(-0.69)	(1.12)	(0.82)	(0.13)
Eff	-0.012	-0.035	0.064**	-0.037	-0.094	0.169***	-0.062	-0.057	0.192**
	(-0.50)	(-1.02)	(2.09)	(-0.77)	(-1.34)	(2.79)	(-0.79)	(-0.48)	(1.98)
Eff×High Corrupt	-0.001	0.004	0.001	0.014	-0.002	0.017	0.018	-0.030	0.021
	(-0.14)	(0.38)	(0.18)	(1.08)	(-0.09)	(1.15)	(0.85)	(-0.67)	(0.86)
Enf	-0.119**	-0.125*	-0.188***	-0.104	-0.156	0.033	-0.092	0.070	-0.144
	(-2.14)	(-1.68)	(-2.66)	(-1.06)	(-0.91)	(0.18)	(-0.61)	(0.30)	(-0.61)
Enf×High Corrupt	-0.019*	-0.005	-0.035*	0.018	-0.021	0.062*	0.037	-0.017	0.024
	(-1.67)	(-0.33)	(-1.80)	(0.74)	(-0.58)	(1.77)	(1.00)	(-0.30)	(0.39)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Ann	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Eff	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Enf	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	479,937	151,737	327,485	479,937	151,737	327,485	479,937	151,737	327,485
Adjusted R^2	0.132	0.223	0.144	0.183	0.281	0.246	0.239	0.369	0.337

Table 19: BHARs and ESG - Timing

This table reports results from OLS regressions relating buy and hold returns and Asset4 ESG scores over time. The dependent variables are 1-month, 3-month, and 6-month buy and hold returns. *High Asset4* is interacted with *EU*, an indicator variable that takes a value of 1 if the country in which the firm's stock trades is in the EU, and year variables, where Yi is the ith year after the announcement of MAR. Firm-level control variables are the 3-year average before MAR was announced and include *Size*, *ROA*, and *Leverage*. Industry fixed effects are based on 2-digit SIC industries. Models (1), (4), and (7) use both buy and sell transactions. Models (2), (5), and (8) use only buy transactions. Models (3), (6), and (9) use only sell transactions. t-statistics in parentheses are calculated from heteroscedasticity-robust standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	1-Month BHAR			3-Month BHAR			6-Month BHAR		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Y-1×High Asset4×EU	0.014	0.012	0.008	0.031	0.025	-0.005	0.002	0.051	-0.030
	(1.23)	(0.75)	(0.58)	(0.96)	(0.52)	(-0.16)	(0.04)	(0.52)	(-0.47)
Y0×High Asset4×EU	0.002	0.029*	-0.015	0.022	0.071	-0.018	-0.048	0.086	-0.083*
	(0.13)	(1.88)	(-1.03)	(0.75)	(1.43)	(-0.67)	(-0.73)	(0.83)	(-1.81)
Y+1×High Asset4×EU	0.010	0.000	0.002	0.026	-0.021	0.024	-0.061	-0.064	-0.059
	(0.81)	(0.00)	(0.15)	(0.96)	(-0.47)	(0.84)	(-1.10)	(-0.66)	(-1.01)
Y+2×High Asset4×EU	0.034***	0.016	0.016	0.077**	0.007	0.046	0.040	-0.021	0.011
	(2.79)	(0.91)	(1.23)	(2.13)	(0.15)	(1.20)	(0.57)	(-0.20)	(0.15)
Y+3×High Asset4×EU	0.016	0.026	-0.005	0.025	0.039	-0.037	-0.045	0.023	-0.121*
	(1.42)	(1.48)	(-0.41)	(0.87)	(0.82)	(-1.22)	(-0.74)	(0.21)	(-1.94)
Y+4×High Asset4×EU	0.016	0.024	-0.015	0.047	0.078	-0.077**	-0.006	0.101	-0.194**
	(1.14)	(1.19)	(-0.85)	(1.26)	(1.35)	(-2.18)	(-0.10)	(0.94)	(-2.30)
Y+5×High Asset4×EU	-0.009	0.001	-0.023	-0.017	-0.090*	0.030	-0.191**	-0.136	-0.211*
	(-0.65)	(0.06)	(-1.50)	(-0.53)	(-1.93)	(0.91)	(-2.10)	(-1.31)	(-1.91)
Y+6×High Asset4×EU	-0.047	-0.025	-0.019	-0.079	0.126	-0.012	-0.217	0.177	-0.085
	(-0.82)	(-0.54)	(-0.24)	(-0.86)	(1.34)	(-0.14)	(-1.30)	(1.01)	(-0.43)

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Table 19 Continued

	1-Month BHAR			3-Month BHAR			6-Month BHAR		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ind × Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Year	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	123,147	23,640	99,422	123,147	23,640	99,422	123,147	23,640	99,422
Adjusted R^2	0.134	0.298	0.151	0.193	0.344	0.243	0.255	0.442	0.338

Table 20: CARs

This table reports the t-test results of CARs for all enforcement events for whether the CARs are significantly different from 0. *EW CAR* is the equal-eighted CAR. *VW CAR* is the value-weighted CAR. CAR windows are labeled (0,i) where 0 is the event date and i is the number of days after the event date. Models (1), (2), and (3) test whether the CARs are significantly different from 0 for the full sample. Models (4), (5), and (6) test whether the CARs are singificantly different from 0 if the event occurred in the country on which the firm's stock trades.

	(1)	(2)	(3)	(4)	(5)	(6)
	CAR (0,1)	CAR (0,2)	CAR (0,3)	CAR (0,1)	CAR (0,2)	CAR (0,3)
EW CAR	-0.0008***	-0.0017***	-0.0024***	-0.0024***	-0.0030***	-0.0036***
	(-12.28)	(-22.66)	(-29.27)	(-10.81)	(-11.81)	(-12.99)
VW CAR	-0.0006***	-0.0009***	-0.0015***	-0.0006**	-0.0008**	-0.0016***
	(-9.14)	(-13.12)	(-18.92)	(-2.85)	(-3.15)	(-5.87)
Observations	410002	410002	410002	44456	44456	44456

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 21: CARs - Insider Dealing

This table reports the t-test results of CARs for events involving enforcement of insider dealing for whether the CARs are significantly different from 0. *EW CAR* is the equal-eighted CAR. *VW CAR* is the value-weighted CAR. CAR windows are labeled (0,i) where 0 is the event date and i is the number of days after the event date. Models (1), (2), and (3) test whether the CARs are significantly different from 0 for the full sample. Models (4), (5), and (6) test whether the CARs are singificantly different from 0 if the event occurred in the country on which the firm's stock trades.

	(1)	(2)	(3)	(4)	(5)	(6)
	CAR (0,1)	CAR (0,2)	CAR (0,3)	CAR (0,1)	CAR (0,2)	CAR (0,3)
EW CAR	-0.0005*	-0.0023***	-0.0077***	-0.0017*	-0.0021**	-0.0062***
	(-2.51)	(-9.64)	(-25.52)	(-2.50)	(-2.70)	(-6.50)
VW CAR	-0.0019***	-0.0020***	-0.0025***	-0.0031***	-0.0024**	-0.0021*
	(-9.77)	(-8.64)	(-9.76)	(-4.69)	(-3.04)	(-2.38)
Observations	40771	40814	40811	3059	3059	3059

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 22: CARs - Sanction Pecuniary Amount

This table reports the t-test results of CARs by sanction amount. *EW CAR* is the equal-eighted CAR. *VW CAR* is the value-weighted CAR. CAR windows are labeled (0,i) where 0 is the event date and i is the number of days after the event date. Events are split by the median within country by the pecuniary amount of the sanction imposed. Models (1), (2), and (3) test the difference between less and more pecuniary amounts for all countries. Models (4), (5), and (6) test the difference between less and more pecuniary amounts for events that occurred in the country on which the firm's stock trades.

	(1)	(2)	(3)	(4)	(5)	(6)
	CAR (0,1)	CAR (0,2)	CAR (0,3)	CAR (0,1)	CAR (0,2)	CAR (0,3)
EW CAR	0.0001	-0.0008***	-0.0015***	-0.0025***	-0.0026***	-0.0030***
	(0.76)	(-5.35)	(-8.40)	(-5.48)	(-4.90)	(-5.04)
VW CAR	0.0006***	0.0004**	0.0004*	0.0005	-0.0010*	-0.0012*
	(4.58)	(2.97)	(2.35)	(1.16)	(-2.00)	(-2.19)
Observations	398102	398102	398102	43027	43027	43027

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 23: CARs - COVID-19

This table reports the t-test results of CARs comparing the event dates prior to the first lockdown in the EU countries in the sample to the events after this date. *EW CAR* is the equal-eighted CAR. *VW CAR* is the value-weighted CAR. CAR windows are labeled (0,i) where 0 is the event date and i is the number of days after the event date. Models (1), (2), and (3) test the difference between pre- and post-COVID-19 periods for all events. Models (4), (5), and (6) test the difference between pre- and post-COVID-19 periods for events that occurred in the country in which the firm's stock trades.

	(1)	(2)	(3)	(4)	(5)	(6)
	CAR (0,1)	CAR (0,2)	CAR (0,3)	CAR (0,1)	CAR (0,2)	CAR (0,3)
EW CAR	-0.0012**	-0.0019***	-0.0031***	-0.0018	0.0001	-0.0024
	(-2.88)	(-4.00)	(-5.76)	(-1.09)	(0.04)	(-1.16)
VW CAR	-0.0013***	-0.0017***	-0.0031***	-0.0034*	-0.0041*	-0.0051*
	(-3.29)	(-3.76)	(-6.05)	(-2.22)	(-2.30)	(-2.56)
Observations	410002	410002	410002	44456	44456	44456

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 24: CARs - Legal or Natural Violator

This table reports the t-test results of CARs comparing the events where the violation was chargedd against a legal person to those charged against a natural person. *EW CAR* is the equal-eighted CAR. *VW CAR* is the value-weighted CAR. CAR windows are labeled (0,i) where 0 is the event date and i is the number of days after the event date. Models (1), (2), and (3) test the difference between events charged against legal persons to events charged against natural persons for all events. Models (4), (5), and (6) test the difference between events charged against legal persons to events charged against natural persons for events that occurred in the country in which the firm's stock trades.

	(1)	(2)	(3)	(4)	(5)	(6)
	CAR (0,1)	CAR (0,2)	CAR (0,3)	CAR (0,1)	CAR (0,2)	CAR (0,3)
EW CAR	-0.0008***	-0.0042***	-0.0068***	-0.0078***	-0.0092***	-0.0101***
	(-5.02)	(-22.36)	(-32.41)	(-14.06)	(-14.39)	(-14.28)
VW CAR	-0.0009***	-0.0008***	-0.0008***	-0.0010	-0.0008	-0.0002
	(-5.73)	(-4.15)	(-4.19)	(-1.87)	(-1.36)	(-0.36)
Observations	454145	454145	454145	48014	48014	48014

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 25: CARs - Matching Firm

This table reports the t-tests of whether the firm involved in the event had CARs significantly different from 0. *EW CAR* is the equal-eighted CAR. *VW CAR* is the value-weighted CAR. CAR windows are labeled (0,i) where 0 is the event date and i is the number of days after the event date. Models (1), (2), and (3) test whether the CARs are significantly different from 0 for the full sample. Models (4), (5), and (6) test whether the CARs are singificantly different from 0 if the event occurred in the country on which the firm's stock trades.

	(1)	(2)	(3)	(4)	(5)	(6)
	CAR (0,1)	CAR (0,2)	CAR (0,3)	CAR (0,1)	CAR (0,2)	CAR (0,3)
EW CAR	-0.0058	-0.0054	0.0036	-0.0069	-0.0059	0.0025
	(-0.71)	(-0.54)	(0.30)	(-0.78)	(-0.55)	(0.20)
VW CAR	-0.0043	-0.0030	0.0085	-0.0054	-0.0031	0.0082
	(-0.54)	(-0.31)	(0.78)	(-0.63)	(-0.30)	(0.70)
Observations	42	42	42	39	39	39

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 26: CARs - Profitability

This table reports the t-test results of CARs where firms are split by the profitability of their trades. The results compare the more profitable to the less profitable after MAR became effective, split by the sample median. Panel A (B) splits using equal-weighted (value-weighted) buy-and-hold returns of insider trades. *EW CAR* is the equal-eighted CAR. *VW CAR* is the value-weighted CAR. CAR windows are labeled (0,i) where 0 is the event date and i is the number of days after the event date. Models (1), (2), and (3) test the difference between more and less profitable insider trading for all events. Models (4), (5), and (6) test the difference between more and less profitable insider trading if the event occurred in the country in which the firm's stock trades.

	(1)	(2)	(3)	(4)	(5)	(6)
	CAR (0,1)	CAR (0,2)	CAR (0,3)	CAR (0,1)	CAR (0,2)	CAR (0,3)
Panel A						
EW CAR	-0.0001	-0.0001	-0.0003	-0.0005	-0.0006	-0.0009
	(-0.40)	(-0.28)	(-1.24)	(-0.71)	(-0.68)	(-0.90)
VW CAR	-0.0000	-0.0000	-0.0003	-0.0003	-0.0004	-0.0003
	(-0.21)	(-0.05)	(-1.10)	(-0.53)	(-0.45)	(-0.33)
Observations	106445	106445	106445	10288	10288	10288
Panel B						
EW CAR	-0.0002	-0.0000	-0.0001	0.0004	0.0005	-0.0000
	(-0.85)	(-0.10)	(-0.28)	(0.51)	(0.54)	(-0.00)
VW CAR	-0.0001	0.0000	0.0000	0.0005	0.0007	0.0007
	(-0.64)	(0.09)	(0.08)	(0.84)	(0.90)	(0.80)
Observations	106445	106445	106445	10288	10288	10288

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 27: CARs by Firm-Level Culture

This table reports the t-test results of CARs by firm-level culture measures. *EW CAR* is the equal-eighted CAR. *VW CAR* is the value-weighted CAR. CAR windows are labeled (0,i) where 0 is the event date and i is the number of days after the event date. The firms in the sample are split by the sample median based on the A4IR score, social score, and environmental score. Panel A (B) uses all events (events that occurred in the country in which the firm's stock trades). Models (1), (2), and (3) test the difference between low and high A4IR scores. Models (4), (5), and (6) test the difference between low and high environmental scores. Models (7), (8), and (9) test the difference between low and high social scores.

	(1) CAR (0,1)	(2) CAR (0,2)	(3) CAR (0,3)	(4) CAR (0,1)	(5) CAR (0,2)	(6) CAR (0,3)	(7) CAR (0,1)	(8) CAR (0,2)	(9) CAR (0,3)
Panel A									
EW CAR	0.0001	0.0001	-0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0004
	(0.61)	(0.53)	(-0.46)	(0.77)	(0.96)	(0.82)	(0.81)	(0.96)	(1.28)
VW CAR	0.0004*	0.0004	0.0002	0.0006**	0.0005*	0.0005	0.0006**	0.0005*	0.0006*
	(2.21)	(1.52)	(0.92)	(2.81)	(2.10)	(1.79)	(2.81)	(2.08)	(2.28)
Observations	73453	73453	73453	73453	73453	73453	73453	73453	73453
Panel B									
EW CAR	0.0006	0.0010	0.0012	0.0004	0.0008	0.0007	0.0002	0.0008	0.0008
	(0.75)	(1.11)	(1.18)	(0.43)	(0.85)	(0.68)	(0.29)	(0.82)	(0.78)
VW CAR	0.0011	0.0019*	0.0023*	0.0009	0.0011	0.0014	0.0007	0.0010	0.0018
	(1.61)	(2.37)	(2.47)	(1.23)	(1.23)	(1.40)	(1.02)	(1.19)	(1.91)
Observations	5217	5217	5217	5217	5217	5217	5217	5217	5217

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 28: CARs by Country-Level Culture

This table reports the t-test results of CARs by country-level culture measures. *EW CAR* is the equal-eighted CAR. *VW CAR* is the value-weighted CAR. CAR windows are labeled (0,i) where 0 is the event date and i is the number of days after the event date. The firms in the sample are split by the sample median based on Hofstede individuality scores, Hofstede uncertainty avoidance scores, and Corruption Perceptions Index scores. Panel A (B) uses all events (events that occurred in the country in which the firm's stock trades). Models (1), (2), and (3) test the difference between low and high individuality scores. Models (4), (5), and (6) test the difference between low and high uncertainty avoidance scores. Models (7), (8), and (9) test the difference between low and high corruption scores.

	(1) CAR (0,1)	(2) CAR (0,2)	(3) CAR (0,3)	(4) CAR (0,1)	(5) CAR (0,2)	(6) CAR (0,3)	(7) CAR (0,1)	(8) CAR (0,2)	(9) CAR (0,3)
Panel A									
EW CAR	0.0001	0.0004**	0.0002	-0.0005***	-0.0003*	0.0000	-0.0000	-0.0001	0.0003
	(0.44)	(2.67)	(0.87)	(-4.12)	(-2.18)	(0.16)	(-0.31)	(-0.44)	(1.72)
VW CAR	0.0001	0.0000	0.0002	-0.0001	-0.0004*	-0.0005**	0.0001	-0.0001	-0.0003
	(0.98)	(0.21)	(1.45)	(-0.85)	(-2.51)	(-2.95)	(0.71)	(-0.37)	(-1.74)
Observations	410002	410002	410002	410002	410002	410002	410002	410002	410002
Panel B									
EW CAR	-0.0003	0.0009	-0.0016	-0.0031***	-0.0032***	-0.0038***	-0.0022	-0.0033	-0.0036
	(-0.43)	(0.96)	(-1.59)	(-4.76)	(-4.27)	(-4.63)	(-1.46)	(-1.82)	(-1.81)
VW CAR	-0.0007	0.0006	0.0020*	0.0001	-0.0011	0.0000	-0.0024	-0.0026	-0.0021
	(-1.02)	(0.74)	(2.13)	(0.19)	(-1.49)	(0.06)	(-1.64)	(-1.53)	(-1.10)
Observations	44456	44456	44456	44456	44456	44456	44456	44456	44456

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 29: Correlations

This table reports the correlations of the variables we have ussed to split the sample in previous t-tests. *Inside* is an indicator variable that takes a values of 1 if the enforcement was related to insider dealing. *Legal* is an indicator variable that takes a value of 1 if the enforcement was against a legal person. *High Amt* is an indicator variable that takes a value of 1 if the enforcement had an amount above the sample median by country. *COVID-19* is an indicator variable that takes a value of 1 if the event date is after the first lockdown among the sample countries. *Ctry* is an indicator variable that takes a value of 1 if the event occured in the same country where the firm's stock trades. *Asset4* is an indicator variable that takes a value of 1 if the firm has an Asset4 ESG score an above sample median. *Soc* is an indicator variable that takes a value of 1 if the firm has an Asset4 social score above the sample median. *Env* is an indicator variable that takes a value of 1 if the firm has an Asset4 environmental score above the sample median. *IDV* is an indicator variable that takes a value of 1 if the country in which the firm's stock trades has a Hofstede individuality score above the sample median. *UAI* is an indicator variable that takes a value of 1 if the country in which the firm's stock trades has a Hofstede uncertainty avoidance score above the sample median. *Corrupt* is an indicator variable that takes a value of 1 if the country in which the firm's stock trades has a corruption score below the sample median.

	Inside	Legal	High Amt	COVID-19	Ctry	Asset4	Soc	Env	IDV	UAI	Corrupt
Inside	1.00										
Legal	0.24***	1.00									
High Amt	0.04***	0.07***	1.00								
COVID-19	0.02***	0.09***	0.06***	1.00							
Ctry	-0.02***	0.01***	0.01***	-0.02***	1.00						
Asset4	-0.00	-0.01***	-0.01***	-0.08***	0.03***	1.00					
Soc	0.00	0.01***	0.01***	-0.00	0.04***	0.60***	1.00				
Env	0.00	0.02***	0.01***	0.02***	0.05***	0.53***	0.65***	1.00			
IDV	-0.00	-0.01***	-0.01***	-0.02***	0.17***	0.11***	-0.01***	-0.04***	1.00		
UAI	-0.00*	0.00***	0.00***	-0.09***	-0.13***	0.10***	0.16***	0.10***	-0.10***	1.00	
Corrupt	-0.00	0.00**	0.00	-0.07***	-0.16***	-0.04***	-0.02***	-0.06***	-0.46***	0.61***	1.00

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 30: CARs - Same Country

This table reports the OLS regressions of CARs results relating split variables used in CAR t-tests and whether the event occurred in the same country as the one in which the firm's stock trades. The dependent variable is *EW (VW) CAR*, which is the equal-weighted (value-weighted) CAR. Independent variables defined in Table 1. Models (1) and (4), (2) and (5), (3) and (6) use windows (0,1), (0,2), (0,3) days around the event date, repsectively. *t*-statistics in parentheses are calculated from heteroscedasticity-robust standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	EW CAR			VW CAR		
	(1)	(2)	(3)	(4)	(5)	(6)
Ctry	-0.0006	0.0011**	0.0001	-0.0003	0.0000	-0.0007
	(-1.58)	(2.54)	(0.27)	(-0.82)	(0.09)	(-1.47)
Inside	0.0004*	0.0007**	-0.0032***	-0.0007***	-0.0003	-0.0003
	(1.68)	(2.38)	(-9.43)	(-3.00)	(-0.94)	(-0.82)
Inside×Ctry	0.0017**	0.0008	0.0029**	-0.0021**	-0.0027**	-0.0024**
	(1.99)	(0.76)	(2.34)	(-2.44)	(-2.57)	(-2.06)
Legal	0.0001	-0.0036***	-0.0059***	-0.0011***	-0.0012***	-0.0016***
	(0.82)	(-17.14)	(-23.47)	(-6.79)	(-5.92)	(-7.41)
Legal×Ctry	-0.0093***	-0.0075***	-0.0051***	0.0006	0.0004	0.0013**
	(-13.84)	(-9.51)	(-5.82)	(1.12)	(0.57)	(1.96)
High Amt	-0.0004***	0.0008***	0.0017***	-0.0008***	-0.0009***	-0.0008***
	(-2.63)	(4.23)	(8.19)	(-5.35)	(-5.13)	(-3.73)
High Amt×Ctry	0.0030***	0.0021***	0.0015**	-0.0001	0.0014**	0.0018***
	(6.54)	(3.84)	(2.52)	(-0.26)	(2.52)	(2.97)
COVID-19	0.0048***	0.0067***	0.0094***	0.0073***	0.0093***	0.0137***
	(3.74)	(3.90)	(4.83)	(5.25)	(4.90)	(6.39)
COVID-19×Ctry	0.0012	-0.0049**	-0.0038*	0.0018	0.0007	-0.0007
	(0.79)	(-2.25)	(-1.69)	(1.12)	(0.32)	(-0.32)
Firm FE	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓
Firm Controls	✓	✓	✓	✓	✓	✓
Observations	441,103	441,103	441,103	441,103	441,103	441,103
Adjusted R^2	0.008	0.009	0.012	0.010	0.010	0.012

Table 31: CARs - Asset4 ESG

This table reports the OLS regressions of CARs results relating split variables used in CAR t-tests and high Asset4 ESG scores. The dependent variable is *EW (VW) CAR*, which is the equal-weighted (value-weighted) CAR. *Asset4* is an indicator variable that takes a value of 1 if the firm has an Asset4 ESG score an above sample median. All other independent variables defined in Table 1. Models (1) and (4), (2) and (5), (3) and (6) use windows (0,1), (0,2), (0,3) days around the event date, repsectively. *t*-statistics in parentheses are calculated from heteroscedasticity-robust standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	EW CAR			VW CAR		
	(1)	(2)	(3)	(4)	(5)	(6)
Inside	0.0024***	0.0025***	-0.0019**	0.0013**	0.0016**	-0.0003
	(3.75)	(3.31)	(-2.03)	(2.19)	(2.20)	(-0.33)
Inside×Asset4	-0.0004	-0.0007	-0.0009	-0.0003	-0.0007	0.0004
	(-0.44)	(-0.66)	(-0.68)	(-0.38)	(-0.74)	(0.37)
Legal	-0.0003	-0.0026***	-0.0044***	-0.0012***	-0.0015***	-0.0018***
	(-0.83)	(-5.20)	(-7.12)	(-3.06)	(-2.97)	(-2.92)
Legal×Asset4	0.0018***	0.0008	0.0005	0.0014***	0.0017**	0.0017**
	(3.42)	(1.20)	(0.59)	(2.77)	(2.58)	(2.08)
High Amt	-0.0003	-0.0002	0.0002	-0.0004	-0.0010**	-0.0011**
	(-0.93)	(-0.51)	(0.31)	(-1.07)	(-2.32)	(-2.21)
High Amt×Asset4	0.0001	0.0006	0.0015**	0.0006	0.0008	0.0014**
	(0.26)	(1.02)	(2.18)	(1.22)	(1.40)	(2.02)
COVID-19	0.0045**	0.0049**	0.0072***	0.0066***	0.0077***	0.0116***
	(2.54)	(2.10)	(2.94)	(3.48)	(3.12)	(4.28)
COVID-19×Asset4	-0.0003	0.0014	0.0013	-0.0004	0.0011	0.0007
	(-0.15)	(0.56)	(0.50)	(-0.23)	(0.44)	(0.24)
Ctry	-0.0011	0.0001	0.0016	0.0003	0.0017**	0.0021**
	(-1.46)	(0.11)	(1.60)	(0.39)	(2.00)	(2.22)
Ctry×Asset4	-0.0011	-0.0011	-0.0014	-0.0014*	-0.0024**	-0.0032***
	(-1.30)	(-1.08)	(-1.23)	(-1.67)	(-2.32)	(-2.75)
Firm FE	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓
Firm Controls	✓	✓	✓	✓	✓	✓
Observations	82,457	82,457	82,457	82,457	82,457	82,457
Adjusted R^2	0.007	0.008	0.011	0.021	0.019	0.020

Table 32: CARs - Social Score

This table reports the OLS regressions of CARs results relating split variables used in CAR t-tests and high Asset4 social scores. The dependent variable is *EW (VW) CAR*, which is the equal-weighted (value-weighted) CAR. *Soc* is an indicator variable that takes a value of 1 if the firm has an Asset4 social score above the sample median. All other independent variables defined in Table 1. Models (1) and (4), (2) and (5), (3) and (6) use windows (0,1), (0,2), (0,3) days around the event date, repsectively. *t*-statistics in parentheses are calculated from heteroscedasticity-robust standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	EW CAR			VW CAR		
	(1)	(2)	(3)	(4)	(5)	(6)
Inside	0.0020***	0.0026***	-0.0015	0.0009	0.0016**	-0.0000
	(3.32)	(3.35)	(-1.54)	(1.50)	(2.11)	(-0.03)
Inside×Soc	0.0003	-0.0008	-0.0015	0.0005	-0.0006	-0.0000
	(0.37)	(-0.77)	(-1.21)	(0.68)	(-0.57)	(-0.03)
Legal	-0.0005	-0.0030***	-0.0045***	-0.0015***	-0.0020***	-0.0021***
	(-1.19)	(-5.39)	(-6.81)	(-3.81)	(-3.80)	(-3.46)
Legal×Soc	0.0019***	0.0013*	0.0006	0.0018***	0.0024***	0.0021***
	(3.52)	(1.85)	(0.65)	(3.47)	(3.59)	(2.59)
High Amt	0.0001	-0.0001	0.0004	-0.0001	-0.0010**	-0.0011**
	(0.35)	(-0.13)	(0.69)	(-0.19)	(-2.28)	(-2.06)
High Amt×Soc	-0.0007	0.0003	0.0010	-0.0000	0.0008	0.0012*
	(-1.38)	(0.47)	(1.41)	(-0.04)	(1.36)	(1.73)
COVID-19	0.0078***	0.0088***	0.0109***	0.0093***	0.0108***	0.0147***
	(4.08)	(3.59)	(3.90)	(4.79)	(4.44)	(5.11)
COVID-19×Soc	-0.0052***	-0.0053**	-0.0050*	-0.0044***	-0.0043**	-0.0044*
	(-2.90)	(-2.26)	(-1.85)	(-2.64)	(-1.98)	(-1.70)
Ctry	-0.0017**	-0.0001	0.0005	-0.0003	0.0009	0.0013
	(-2.08)	(-0.15)	(0.47)	(-0.35)	(1.01)	(1.30)
Ctry×Soc	-0.0002	-0.0006	0.0004	-0.0005	-0.0008	-0.0015
	(-0.21)	(-0.55)	(0.32)	(-0.50)	(-0.77)	(-1.26)
Firm FE	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓
Firm Controls	✓	✓	✓	✓	✓	✓
Observations	82,457	82,457	82,457	82,457	82,457	82,457
Adjusted R^2	0.007	0.008	0.011	0.021	0.019	0.020

Table 33: CARs - Environmental Score

This table reports the OLS regressions of CARs results relating split variables used in CAR t-tests and high Asset4 environmental scores. The dependent variable is *EW (VW) CAR*, which is the equal-weighted (value-weighted) CAR. *Env* is an indicator variable that takes a value of 1 if the firm has an Asset4 environmental score above the sample median. All other independent variables defined in Table 1. Models (1) and (4), (2) and (5), (3) and (6) use windows (0,1), (0,2), (0,3) days around the event date, repsectively. *t*-statistics in parentheses are calculated from heteroscedasticity-robust standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	EW CAR			VW CAR		
	(1)	(2)	(3)	(4)	(5)	(6)
Inside	0.0021***	0.0024***	-0.0016*	0.0009	0.0013*	-0.0001
	(3.48)	(3.13)	(-1.75)	(1.58)	(1.70)	(-0.06)
Inside×Env	0.0002	-0.0004	-0.0012	0.0005	0.0000	-0.0000
	(0.30)	(-0.44)	(-0.97)	(0.64)	(0.03)	(-0.00)
Legal	0.0001	-0.0023***	-0.0039***	-0.0011**	-0.0014**	-0.0015**
	(0.16)	(-3.88)	(-5.64)	(-2.43)	(-2.49)	(-2.28)
Legal×Env	0.0009	0.0001	-0.0004	0.0010*	0.0014**	0.0010
	(1.57)	(0.18)	(-0.46)	(1.87)	(2.03)	(1.20)
High Amt	-0.0001	-0.0001	0.0005	-0.0003	-0.0010**	-0.0009*
	(-0.33)	(-0.21)	(0.99)	(-0.68)	(-2.33)	(-1.79)
High Amt×Env	-0.0003	0.0004	0.0007	0.0003	0.0008	0.0009
	(-0.50)	(0.59)	(1.04)	(0.63)	(1.39)	(1.34)
COVID-19	0.0066***	0.0077***	0.0104***	0.0084***	0.0099***	0.0138***
	(2.98)	(2.66)	(3.33)	(3.59)	(3.25)	(4.04)
COVID-19×Env	-0.0032*	-0.0034	-0.0039	-0.0027	-0.0026	-0.0028
	(-1.70)	(-1.37)	(-1.39)	(-1.54)	(-1.10)	(-0.99)
Ctry	-0.0010	0.0006	0.0020*	0.0005	0.0016*	0.0020**
	(-1.21)	(0.66)	(1.81)	(0.72)	(1.86)	(2.05)
Ctry×Env	-0.0012	-0.0017	-0.0018	-0.0016*	-0.0018*	-0.0025**
	(-1.29)	(-1.55)	(-1.42)	(-1.77)	(-1.74)	(-2.14)
Firm FE	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓
Firm Controls	✓	✓	✓	✓	✓	✓
Observations	82,457	82,457	82,457	82,457	82,457	82,457
Adjusted R^2	0.007	0.008	0.011	0.021	0.019	0.020

Table 34: CARs - Individualism

This table reports the OLS regressions of CARs results relating split variables used in CAR t-tests and high individualism. The dependent variable is *EW (VW) CAR*, which is the equal-weighted (value-weighted) CAR. *IDV* is an indicator variable that takes a value of 1 if the country in which the firm's stock trades has a Hofstede individuality score above the sample median. All other independent variables defined in Table 1. Models (1) and (4), (2) and (5), (3) and (6) use windows (0,1), (0,2), (0,3) days around the event date, repsectively. *t*-statistics in parentheses are calculated from heteroscedasticity-robust standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	EW CAR			VW CAR		
	(1)	(2)	(3)	(4)	(5)	(6)
Inside	-0.0001	0.0014***	-0.0023***	-0.0009**	-0.0004	-0.0009*
	(-0.19)	(3.14)	(-4.65)	(-2.53)	(-0.87)	(-1.91)
Inside×IDV	0.0009**	-0.0010*	-0.0009	0.0000	-0.0002	0.0007
	(2.05)	(-1.77)	(-1.41)	(0.01)	(-0.46)	(1.09)
Legal	0.0003	-0.0024***	-0.0042***	-0.0005**	-0.0010***	-0.0014***
	(1.23)	(-8.11)	(-12.06)	(-2.39)	(-3.35)	(-4.12)
Legal×IDV	-0.0018***	-0.0031***	-0.0035***	-0.0008***	-0.0003	-0.0002
	(-6.12)	(-8.08)	(-7.79)	(-2.66)	(-0.73)	(-0.52)
High Amt	-0.0006***	0.0001	0.0007**	-0.0007***	-0.0008***	-0.0005*
	(-2.58)	(0.42)	(2.31)	(-2.99)	(-3.03)	(-1.70)
High Amt×IDV	0.0008***	0.0014***	0.0017***	-0.0002	0.0001	-0.0001
	(2.88)	(3.88)	(4.31)	(-0.58)	(0.29)	(-0.16)
COVID-19	0.0035***	0.0039**	0.0062***	0.0063***	0.0071***	0.0110***
	(2.67)	(2.26)	(3.04)	(4.40)	(3.74)	(4.94)
COVID-19×IDV	0.0025**	0.0042***	0.0053***	0.0021**	0.0039***	0.0047***
	(2.33)	(2.98)	(3.01)	(2.02)	(2.83)	(2.69)
Ctry	-0.0025***	-0.0014**	-0.0034***	-0.0014**	0.0004	0.0014*
	(-4.45)	(-2.14)	(-4.18)	(-2.51)	(0.56)	(1.87)
Ctry×IDV	0.0010	0.0014*	0.0036***	0.0011*	-0.0002	-0.0019**
	(1.48)	(1.85)	(3.85)	(1.68)	(-0.30)	(-2.12)
Firm FE	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓
Firm Controls	✓	✓	✓	✓	✓	✓
Observations	441,103	441,103	441,103	441,103	441,103	441,103
Adjusted R^2	0.007	0.008	0.012	0.010	0.010	0.012

Table 35: CARs - Uncertainty Avoidance

This table reports the OLS regressions of CARs results relating split variables used in CAR t-tests and high uncertainty avoidance. The dependent variable is *EW (VW) CAR*, which is the equal-weighted (value-weighted) CAR. *UAI* is an indicator variable that takes a value of 1 if the country in which the firm's stock trades has a Hofstede uncertainty avoidance score above the sample median. All other independent variables defined in Table 1. Models (1) and (4), (2) and (5), (3) and (6) use windows (0,1), (0,2), (0,3) days around the event date, repsectively. *t*-statistics in parentheses are calculated from heteroscedasticity-robust standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	EW CAR			VW CAR		
	(1)	(2)	(3)	(4)	(5)	(6)
Inside	0.0004	-0.0005	-0.0024***	-0.0005*	-0.0001	-0.0004
	(1.35)	(-1.28)	(-5.77)	(-1.73)	(-0.26)	(-1.00)
Inside×UAI	-0.0000	0.0026***	-0.0026***	-0.0009**	-0.0010*	0.0002
	(-0.09)	(4.55)	(-3.98)	(-2.02)	(-1.79)	(0.32)
Legal	-0.0016***	-0.0038***	-0.0048***	-0.0010***	-0.0012***	-0.0015***
	(-7.99)	(-15.07)	(-16.95)	(-5.45)	(-5.16)	(-5.83)
Legal×UAI	0.0016***	-0.0017***	-0.0050***	-0.0000	0.0002	0.0003
	(5.23)	(-4.10)	(-10.20)	(-0.13)	(0.49)	(0.65)
High Amt	0.0000	0.0008***	0.0012***	-0.0011***	-0.0010***	-0.0008***
	(0.01)	(3.36)	(4.55)	(-6.03)	(-4.39)	(-2.98)
High Amt×UAI	-0.0001	0.0008**	0.0021***	0.0007***	0.0005	0.0003
	(-0.38)	(2.20)	(5.25)	(2.61)	(1.37)	(0.87)
COVID-19	0.0054***	0.0068***	0.0090***	0.0076***	0.0095***	0.0138***
	(4.09)	(3.86)	(4.42)	(5.37)	(4.93)	(6.29)
COVID-19×UAI	-0.0023*	-0.0030*	0.0002	-0.0004	-0.0008	-0.0003
	(-1.93)	(-1.89)	(0.10)	(-0.32)	(-0.49)	(-0.20)
Ctry	-0.0025***	-0.0012***	-0.0022***	-0.0002	0.0005	0.0007
	(-7.60)	(-3.10)	(-5.05)	(-0.74)	(1.21)	(1.57)
Ctry×UAI	0.0023***	0.0032***	0.0095***	-0.0003	-0.0007	-0.0030***
	(3.54)	(4.00)	(10.17)	(-0.45)	(-0.83)	(-3.41)
Firm FE	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓
Firm Controls	✓	✓	✓	✓	✓	✓
Observations	441,103	441,103	441,103	441,103	441,103	441,103
Adjusted R^2	0.007	0.008	0.012	0.010	0.010	0.012

Table 36: CARs - Corruption

This table reports the OLS regressions of CARs results relating split variables used in CAR t-tests and high corruption. The dependent variable is *EW (VW) CAR*, which is the equal-weighted (value-weighted) CAR. *Corrupt* is an indicator variable that takes a value of 1 if the country in which the firm's stock trades has a corruption score below the sample median. All other independent variables defined in Table 1. Models (1) and (4), (2) and (5), (3) and (6) use windows (0,1), (0,2), (0,3) days around the event date, repsectively. *t*-statistics in parentheses are calculated from heteroscedasticity-robust standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	EW CAR			VW CAR		
	(1)	(2)	(3)	(4)	(5)	(6)
Inside	0.0005**	0.0003	-0.0029***	-0.0008***	-0.0004	-0.0007*
	(2.09)	(0.84)	(-7.58)	(-2.98)	(-1.20)	(-1.90)
Inside×Corrupt	-0.0002	0.0020***	-0.0003	-0.0004	-0.0006	0.0009
	(-0.34)	(3.10)	(-0.37)	(-0.81)	(-0.96)	(1.25)
Legal	-0.0011***	-0.0043***	-0.0060***	-0.0012***	-0.0014***	-0.0019***
	(-6.32)	(-19.02)	(-23.09)	(-7.12)	(-6.67)	(-8.05)
Legal×Corrupt	0.0011***	-0.0003	-0.0018***	0.0008**	0.0011***	0.0017***
	(3.03)	(-0.56)	(-3.30)	(2.20)	(2.58)	(3.49)
High Amt	-0.0001	0.0010***	0.0018***	-0.0009***	-0.0008***	-0.0004*
	(-0.45)	(4.82)	(7.70)	(-5.57)	(-3.82)	(-1.82)
High Amt×Corrupt	0.0000	0.0002	0.0005	0.0004	-0.0001	-0.0008
	(0.10)	(0.38)	(0.97)	(1.12)	(-0.23)	(-1.62)
COVID-19	0.0053***	0.0067***	0.0094***	0.0078***	0.0098***	0.0143***
	(3.98)	(3.75)	(4.70)	(5.47)	(5.08)	(6.55)
COVID-19×Corrupt	-0.0043***	-0.0050**	-0.0044	-0.0032*	-0.0050**	-0.0065**
	(-2.60)	(-2.06)	(-1.45)	(-1.79)	(-1.99)	(-2.48)
Ctry	-0.0017***	-0.0002	-0.0004	-0.0005*	0.0001	-0.0002
	(-6.01)	(-0.54)	(-0.88)	(-1.88)	(0.26)	(-0.62)
Ctry×Corrupt	0.0021**	0.0012	0.0007	0.0023**	0.0024**	0.0019
	(2.15)	(1.01)	(0.47)	(2.39)	(1.97)	(1.33)
Firm FE	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓
Firm Controls	✓	✓	✓	✓	✓	✓
Observations	441,103	441,103	441,103	441,103	441,103	441,103
Adjusted R^2	0.007	0.008	0.011	0.010	0.010	0.012

Table 37: Tobin's Q and Culture

This table reports results from OLS regressions relating Tobin's Q and measures of firm-level culture. The dependent variable is *Tobin's Q*. *High Asset4* is an indicator variable that takes a value of 1 if the firm has an above median Asset4 ESG score. *High Soc* is an indicator variable that takes a value of 1 if the firm has an above median Asset4 social score. *High Env* is an indicator variable that takes a value of 1 if the firm has an above median Asset4 environmental score. *High IDV* is an indicator variable that takes a value of 1 if the firm's country has an individuality score above the sample median. *High UAI* is an indicator variable that takes a value of 1 if the firm's country has an uncertainty avoidance score above the sample median. *High Corrupt* is an indicator variable that takes a value of 1 if the firms' country has a corruption score below the sample median. *Post ESMA* is an indiciator variable that takes a value of 1 for the period after the first publication of the the ESMA MAR enforcement report. Firm-level control variables are the 3-year average before MAR was announced and include *Size*, *ROA*, and *Leverage*. Industry fixed effects are based on 2-digit SIC industries. *t*-statistics in parentheses are calculated from heteroscedasticity-robust standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	Tobin's Q					
	(1)	(2)	(3)	(4)	(5)	(6)
Post ESMA×High Asset4	0.225**					
	(2.07)					
Post ESMA×High Soc		0.160				
		(1.56)				
Post ESMA×High Env			0.225**			
			(2.50)			
Post ESMA×High IDV				0.010		
				(0.17)		
Post ESMA×High UAI					-0.014	
					(-0.25)	
Post ESMA×High Corrupt						-0.034
						(-0.44)
Firm FE	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓
Firm Controls × Post ESMA	✓	✓	✓	✓	✓	✓
Observations	7,367	7,367	7,367	32,396	32,396	32,396
Adjusted R^2	0.764	0.764	0.764	0.689	0.689	0.689

Table 38: Tobin's Q and Profitability

This table reports results from OLS regressions relating Tobin's Q and high profitability. The dependent variable is *Tobin's Q*. *High EW BHARi* is an indicator variable that takes a value of 1 if the firm's mean equal-weighted i-month BHAR is above the sample median. *High VW BHARi* is an indicator variable that takes a value of 1 if the firm's mean value-weighted i-month BHAR is above the sample median. *Less EW* is indicator variable that takes a value of 1 if the firm's mean equal-weighted profitability declined after MAR became effective. *Less VW* is indicator variable that takes a value of 1 if the firm's mean value-weighted profitability declined after MAR became effective. *Post ESMA* is an indiciator variable that takes a value of 1 for the period after the first publication of the the ESMA MAR enforcement report. Firm-level control variables are the 3-year average before MAR was announced and include *Size*, *ROA*, and *Leverage*. Industry fixed effects are based on 2-digit SIC industries. *t*-statistics in parentheses are calculated from heteroscedasticity-robust standard errors clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	Tobin's Q							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Post ESMA×1M BHAR	-0.088							
	(-1.19)							
Post ESMA×3M BHAR		-0.034						
		(-0.48)						
Post ESMA×6M BHAR			-0.132*					
			(-1.93)					
Post ESMA×1M VBHAR				0.030				
				(0.43)				
Post ESMA×3M VBHAR					0.003			
					(0.03)			
Post ESMA×6M VBHAR						-0.022		
						(-0.31)		

Continued on next page

Table 38 Continued

	Tobin's Q							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Post ESMA×Less EW							-0.005	
							(-0.07)	
Post ESMA×Less VW								0.021
								(0.30)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓
Ind × Year	✓	✓	✓	✓	✓	✓	✓	✓
Firm Controls × Post ESMA	✓	✓	✓	✓	✓	✓	✓	✓
Observations	20,805	20,805	20,805	20,805	20,805	20,805	20,805	20,805
Adjusted R^2	0.688	0.688	0.688	0.688	0.688	0.688	0.688	0.688

Vita

Amanda Olsen spent most of her childhood in Columbus, Georgia. After graduating valedictorian of her high school class, she attended LaGrange College, received a Bachelor of Science degree in Mathematics, and graduated valedictorian of her college class. After college graduation, she worked for Wells Fargo for three years, starting as a teller and rising to service manager. While working at Wells Fargo, she earned a Master of Science degree in Finance. After Wells Fargo, she worked in the Terms and Conditions service department of Total System Services (TSYS), a payment processor headquartered in Columbus, Georgia. She rose from analyst level 1 to senior analyst in three years. After this, she decided she wanted to delve further into the examination of firm finances, so she chose to attend graduate school. She chose the University of Tennessee, Knoxville for her graduate studies to pursue a Doctor of Philosophy degree in Business Administration with a concentration in Finance. Her research interests include the effects of culture on insider trading behavior and firm value and the effects of pension activism on firms. After graduation, she will begin a postdoctoral fellowship at the University of Tennessee, Knoxville. She is enormously grateful to her family and friends who supported her throughout her studies and will continue to support her as she continues to follow her career path.